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ABSTRACT

This proceedings includes 18 papers and abstracts of papers presented at the third biennial research symposium of the Coalition for Education in the Outdoors. Following an introduction, "Strengthening the Foundations of Outdoor Education" (Anderson B. Young, Leo H. McAvoy), the papers and abstracts are: "Research in Outdoor Education: Our Place on the Porch" (edited transcript) (Alan Ewert); "Outdoor Education and the Schools" (Bert Horwood); "Outdoor Education and Spirituality" (Tom Smith); "Ethical Frameworks, Moral Practices and Outdoor Education" (Karen M. Fox, Mick Lautt); "Providing an Authentic Wilderness Experience? Thinking beyond the Wilderness Act of 1964" (William T. Borrie, Joseph W. Roggenbuck); "Person-Place Engagement among Recreation Visitors" (abstract) (Iris B. Wilson); "Responsible Environmental Behavior: Metaphoric Transference of Minimum-Impact Ideology" (abstract) (J. Porter Hammitt, Wayne A. Freimund); "Group Development and Group Dynamics in Outdoor Education" (Leo H. McAvoy, Denise S. Mitten, L. Allison Stringer, James P. Steckart, Kraig Sproles); "A Research Summary for Corporate Adventure Training (CAT) and Experience-Based Training and Development (EBTD)" (Simon Priest); "A Research Update of Adventure Therapy (1992-1995): Challenge Activities and Ropes Courses, Wilderness Expeditions, and Residential Camping Programs" (H. L. "Lee" Gillis, Donna Thomsen); "Integrating Outdoor Leadership Education into the Academic Setting" (abstract) (Pamela E. Foti); "Interactive Behaviors between Students and Instructors in the Outdoors" (abstract) (Christine Cashel); "'Kind of in the Middle': The Gendered Meanings of the Outdoors for Women Students" (Karla A. Henderson, Sherry Winn, Nina S. Roberts); "The Current Status of Women's Employment in Outdoor Leadership" (T. A. Loeffler); "The Permanency of a Specific Self-Concept" (Alan N. Wright); "Evaluating the Impact of Environmental Interpretation: A Review of Three Research Studies" (Doug Knapp); "Personality Preferences of Outdoor Participants" (Christine Cashel, Diane Montgomery, Suzie Lane); and "Teaching and Evaluating Outdoor Ethics Programs: Setting a Research Agenda" (Bruce E. Matthews). Contains references in each paper. (SV)

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Coalition for Education in the Outdoors
Third Research Symposium Proceedings

January 12-14, 1996
Bradford Woods, Indiana

Leo H. McAvoy, Ph.D.
L. Allison Stringer, Ph.D.
M. Deborah Bialeschki, Ph.D.
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Editors

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The Coalition for Education in the Outdoors initiated a Research Task Force in 1990 with the purpose of supporting the conduct of research in the field and the dissemination of the results. The symposium at Bradford Woods and these proceedings offer evidence of the success of this task force. At the first symposium in 1992, there was general agreement that the symposium be a regular occurrence. The 1994 and 1996 Symposia and these *Proceedings* are indicators of the Coalition's continued support of research in outdoor education. Information on future events will be available through the Coalition office.

COALITION FOR EDUCATION IN THE OUTDOORS
THIRD RESEARCH SYMPOSIUM PROCEEDINGS

JANUARY 12-14, 1996

Bradford Woods, Indiana

The *Coalition for Education in the Outdoors* is a network of institutions, organizations, agencies, centers, businesses, and associations linked and communicating in support of the broad purposes of educating in, for, and about the outdoors. The Coalition assists in identifying the needs of its affiliates and the field of outdoor education and seeks to find ways to assist in meeting those needs. The Coalition attempts to empower its affiliates in meeting their various constituent needs, as well as advancing the mission of outdoor education globally.

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COALITION FOR EDUCATION IN THE OUTDOORS
THIRD RESEARCH SYMPOSIUM PROCEEDINGS

1996

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STRENGTHENING THE FOUNDATIONS OF OUTDOOR EDUCATION

Anderson B. Young and Leo H. McAvoy

Third Biennial CEO Research Symposium

With the publication of the proceedings of the Third Biennial Coalition for Education in the Outdoors Research Symposium, and with plans underway for the fourth symposium in 1998, it is appropriate to record the background and purposes of this initiative. In essence, these research symposia are an extension of the Coalition's commitment to communication for the enhancement of education in the outdoors. We seek to strengthen the field of outdoor education and to empower those associated with it.

The Coalition for Education in the Outdoors was established in 1987 as a means of improving communication among those involved in outdoor and environmental education. Ironically, one of the strengths of outdoor education—its interdisciplinary nature and its pursuit of multiple aims—is also one of its weaknesses. This multi-faceted nature of outdoor education has segmented the field into interest areas. For example, there are a host of national associations that meet the needs of educators in the outdoors. Among them are the Association for Experiential Education, the American Camping Association, the National Recreation and Park Association, the Alliance for Environmental Education, and the North American Association for Environmental Education, to name a few. All do good work. Many have parallel programs in other countries and at the state or provincial level. Each of these organizations has done much to serve the needs and interests of its members., and each tends to give primary emphasis to particular dimensions of education in the outdoors. Unfortunately, the proliferation of organizations makes it almost impossible for both individuals and organizations to keep track of the full range of developments in outdoor and environmental education.

The Coalition for Education in the Outdoors was created as an information clearinghouse to enable individuals and associations to keep in touch with one another. CEO is not an individual membership organization, but a collection of nearly a hundred associations, businesses, agencies, and educational institutions involved with outdoor education. The Coalition seeks not to duplicate services of existing organizations, but to extend the reach of those organizations. It has done so principally through its quarterly magazine, *Taproot*, which reaches hundreds of subscribers, and secondarily through conferences.

CEO's research symposia are an extension of its networking mission. Most national and state outdoor education organizations are practitioner-oriented. While each tends to understand the importance of research and includes programs and services related to research, few have been able to sustain and nurture an ongoing research community. For this reason, the founders of CEO established a research committee that would help the Coalition to advance the philosophical, empirical, and theoretical bases of outdoor education. That committee, first chaired by Camille Bunting of Texas A & M, organized the inaugural symposium in 1992 and laid the foundation for the two that have

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followed, as well as for the ongoing work of CEO in the area of research and scholarship.

To advance the philosophical, theoretical, and empirical bases of outdoor education, these symposia have three subordinate aims. First, as reflected by these proceedings, the symposium marks an opportunity for scholars to present their work to one another and, through the proceedings, to the larger community of outdoor educators. Second, the symposium is designed to build a sense of community among those interested in outdoor education research and scholarship. Third, the symposium provides a forum where participants can explore other means of accomplishing their research and scholarly aims for outdoor education. Each of these subordinate aims merits some elaboration.

These proceedings, like the first, include a group of research reports and essays on a wide variety of outdoor education-related topics. Several papers discuss the state of current research in various theme areas, such as corporate programs, ethics, therapy, spirituality, group development, school-based programs, and natural resources. Also included are research papers on gender issues, environmental education and interpretation, self-concept, wilderness values, personality and adventure program participants, and career development in outdoor education. The proceedings, like the symposium itself, reflect the diversity of outdoor education. They are a group of papers—and it was a group of people—that would not have been published or gathered by any single outdoor or environmental education organization.

Although these proceedings are an important product of the symposium, the less formal communication at the symposium is an equally important, though less tangible, outcome. The participants at the symposium reflected the diversity of outdoor education. As mentioned above, this symposium attracted a group of people that would not have had the opportunity to gather at the meetings of any of the many fine professional conferences throughout the year. The symposium was structured to be highly interactive and supportive. Participants sought each other out for help in the design of future studies. Research partnerships were formed. In essence, the symposium cultivated a sense of community and cooperation among its participants.

Third, the symposium also provided a forum to address areas of ongoing concern to researchers and scholars in the field. Topics under continuing discussion included the relationship of outdoor education to (1) ethics, (2) spirituality, (3) public schools (4) natural resources, and (5) therapy.

Researchers, like their other colleagues in outdoor education, represent a diversity of backgrounds and interests. They come from different academic backgrounds and write for different literature sources. Through these biennial CEO research symposia, we are able to present some products of their work in a single proceedings, and, equally important, we are building a research community that can only help to strengthen the field of outdoor education and the people and environment it serves.

RESEARCH IN OUTDOOR EDUCATION: OUR PLACE ON THE PORCH[1]

Alan Ewert

University of Northern British Columbia

In *A Yaquie Way of Knowledge*, Carlos Castenada talked about a person's "place on the porch"; that is, the constellation of skills, knowledge and past experiences that serve to define who we are to both ourselves and others. My message today is simply this: What is ***our*** place on the porch and is it where we want to be? Let me address this questions from two, perhaps overly simplistic, angles. But before doing that, let me digress a bit and state forthright that I believe the most important job those fortunate enough to participate in this Research Symposium have is to help define where research in outdoor education is and where it needs to go. Historically, we are pretty good at the former but not so effective at the direction-setting end of things.

This is an old story, and many of you have heard me harp on this before, but we have not really done it yet. It is difficult to imagine having a better situation in which to do some strategic thinking and planning than being at Bradford Woods surrounded by some of the best outdoor educators in the business. Having now worked in several organizations involved in different aspects of research, including private industry, academics and the federal government, my perception has been that those programs with a research plan that was both tactical and strategic invariably had a better chance at long-term success than those that did not.

Let me get back to our porch. From my perspective, defining our place on the porch involves understanding where we are (i.e., our body of knowledge and past contributions to society) and where we need to be going (both in the eyes of our colleagues in other disciplines and within our own perception).

Working in a Natural Resources faculty, it is now becoming clear, sometimes painfully, that the "coin of the realm" is both an established body of knowledge and recognized contributions to various sectors of society. This leads me to think that we need to be able to fully articulate answers to questions such as, "What does education in the outdoors really do?" "Who does it really help?" and "What social ills does it help address?"

We all have our own individual ideas about this, but are there some commonalties in how we address these issues? Furthermore, how can we facilitate this understanding among not only ourselves, but, just as importantly, other institutions and disciplines? With these questions in mind, I believe there are two factors we should consider:

1. Outdoor education and recreation provide society with one of the few ways large numbers of people experience the natural environment in very real, direct ways.
2. It is still true that for a substantial proportion of the public, summer camp, the outdoor laboratory, or the field trip was a powerful and positive event in the life and something "good" happened from it. (You could say that about visiting the dentist, but most of us would not voluntarily choose that as a way to spend our educational resources.)

So, what should we be concerned with as we think about some potential long-range research strategies? Consider, if you will, the following recommendations for research strategies, as shown in Table 1.

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[1] This article is an edited version of the transcript from Dr. Ewert's videotaped presentation at the Symposium.

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TABLE 1
Recommendations for Future Research Strategies

- Integration within and outside of disciplines
- Mainstream our efforts
- Visibility and distribution of findings
- Link up with larger efforts, organizations, and problems
- Capitalize on the linkage between human development and natural landscapes

Integration: By its very nature, outdoor education involves a variety of disciplines and educational opportunities. While research efforts have historically often been unidisciplinary, our future efforts should emulate the complexity of the problem and involve a multitude of scholarly disciplines.

Mainstreaming: Unless our research appears more often in well-recognized research outlets, the information our scientists generate can be marginalized and not fully utilized or recognized.

Visibility and Distribution of Findings: Organizations and centers such as the Coalition for Education in the Outdoors and Bradford Woods can act as clearinghouses for information. ERIC has traditionally played this role, but its effectiveness drops off as one moves away from educationally-focused institutions. Distribution costs will always be a problem, but they are not usually insurmountable with some creativity and concerted effort.

Connecting with Larger Efforts: Outdoor education research has traditionally used the effect of the camp (or similar experience) on the individual as the dependent variable. Our challenge for the future will be to demonstrate how the life-changing experiences our programs offer can also impact larger issues such as crime, families under stress, and health related issues. In addition, there is an entire host of natural resource issues that involve human perceptions and behaviors, such as global climate change, timber harvesting, energy use, waste production, and environmental concern. How can outdoor education impact these larger issues?

Capitalize on the Human Development/Natural Linkages: Natural landscapes can have a powerful effect on humans. Outdoor educators have known this for years and our research suggests this to be the case. For example, improved self-concept, reduced length of hospital stays, and lower recidivism rates are all examples of positive impacts. Outdoor education is ideally situated to capitalize on this interaction, something few other disciplines can emulate or even envision from a systematic perspective. But, we know little about this human development/natural landscape linkage.

THE TRIP TO ABILENE

In business and professional training programs the "Trip to Abilene" is a metaphoric statement implying that a group is heading toward a particular goal even though nobody really wants to go there. But, of course, nobody bothered to raise the issue. So I would challenge you, the participants of the Third Biennial Symposium on Research in Outdoor Education, to consider where we are going and how we should get there. You may not agree with the previous ideas, but we need to work together and lay out a potential game plan. Where should we be allocating our precious and scarce research resources? How can studies be developed to build on one another? What social ills can we target with our powerful outdoor education experiences? And finally, what types of endeavors should we collectively get involved in that will be meaningful for the society of which we are a part, beneficial to our students, and fulfilling for us as practicing researchers?

OUTDOOR EDUCATION AND THE SCHOOLS

Bert Horwood
Professor Emeritus
Queen's University

The research reported to gatherings sponsored by the Coalition for Education in the Outdoors has had relatively little connection with school-based outdoor education. In this paper, I will explore the potentially fruitful interface between education in the outdoors and the schools. The exploration is influenced by the uncertainty of our times, and I have organized this report to reflect two views. One is that the social ferment of the mid-1990s is normal and that we can continue to conduct research in the way that Kuhn (1974) characterized as "normal science." The second view is that the social fabric of the West may be undergoing revolutionary, paradigmatic changes which are hard to recognize from inside and that to carry on as usual may be futile.

By outdoor education, I mean any attempt to educate people out-of-doors. Thus, a mapping exercise in the school yard and the practice of building trades while framing a house count as outdoor education. For the purposes of this paper, "school" is taken to mean any public or private institution with a mandate to educate people over a reasonably long term. Public and private schools, colleges and universities are included, but I have excluded agencies with short term encounters (like Outward Bound Schools) and those with a primarily therapeutic or rehabilitative practice, like programs for persons who are imprisoned or addicted. These exclusions are not meant to devalue such agencies, but only to acknowledge the need to limit the scope of this inquiry and to recognize that such programs have already been the subject of considerable investigation from the outdoor education research community.

Under these definitions, outdoor education could be interpreted as dealing with the school subjects—mathematics, English, sciences and the like. Alternatively, it could be interpreted as including characteristics of education that cut across all subjects. Examples would include cooperation, creativity, fitness, craft-ship, community, and so on. Both interpretations provide many researchable questions. The numerous possibilities of setting, subject and characteristic are illustrated in Figure 1.

BUSINESS AS USUAL

Let us suppose that globalization and related social, economic, and environmental changes do not create a sufficiently serious set of uncertainties to cause us to change our basic ways of looking at the world of outdoor education. In short, let's assume that it's business as usual. On that basis, I examined the ERIC database, current teachers' periodicals, and selected theses in order to construct a picture of the state of research into outdoor education as it relates to schools.

Most of the literature is comprised of uncritical program descriptions: see Sattler and Zalkin (1989) and Grantham (1995). There are a few overviews. For example, Ford (1986) gives a now somewhat outdated account of the range of meanings of outdoor education, and Knapp (1992) contrasts conventional and post-modern ways of knowing in the practice of education outdoors. In a similar vein, Strano (1995) offers a compilation of research relating outdoor education and curriculum in Ontario, and, to extend the international theme, New Zealand outdoor educators have conducted a survey of research needs and promulgated it on the Internet (Lynch, 995). One of the main conclusions from this literature is that schools are heavily involved with outdoor education. Another main conclusion is that there is relatively little high quality research and relatively few critical

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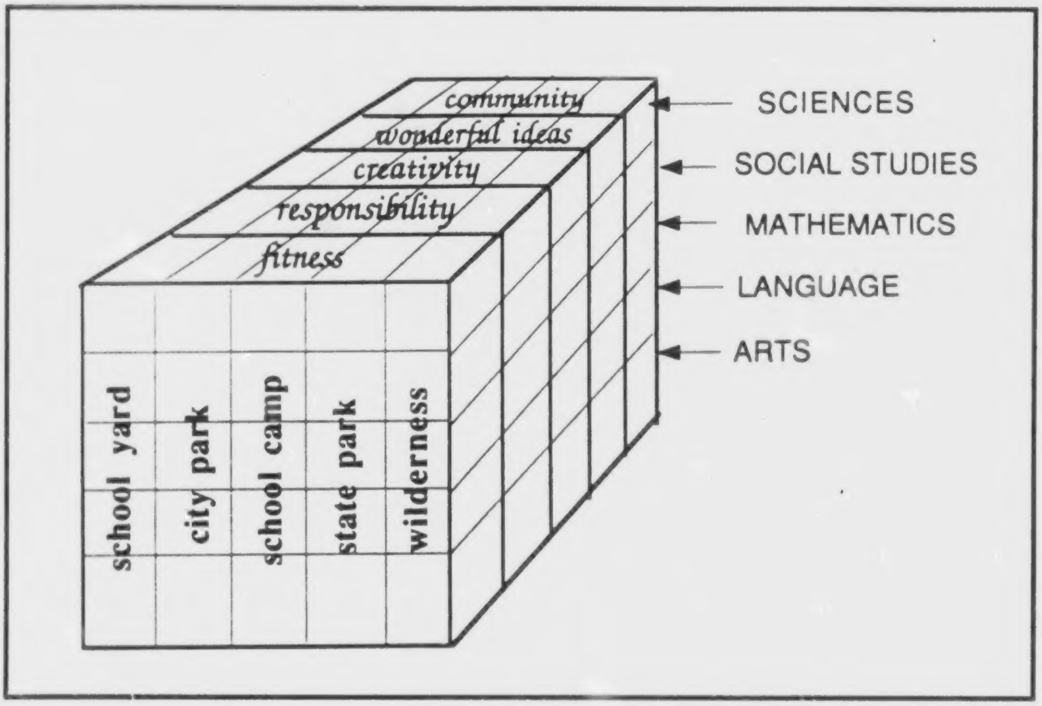

Figure 1. A three-dimensional matrix showing the relationships among examples of curriculum concerns (school subjects and human growth and development) and outdoor education settings at the outdoor-school interface.

perspectives in the field. The lack of well articulated theory and epistemology is particularly evident.

There are some exemplary research reports. Amongst these are Gough's (1993) critique of the readings used in outdoor education, Brookes's (1993) theoretical argument about the purposes and nature of outdoor education, and several theses. I emphasize the theses because in my small sample I found excellent research that is not well disseminated. For example, Raffan's (1983) thesis brought new methods and insights to the study of the curriculum tensions experienced by school teachers 'teaching outdoors; Henderson's (1995a) thesis is a remarkable synthesis of innovative method, education and environment. There is also evidence that scholars at the interface of schools and outdoor education are paying attention to the need for research agendas and an extended view of research methodologies. O'Rourke (1995) and Robbins (1995) are examples of the former; Henderson (1995b) provides a readable example of the latter. It is not to detract from the value of these efforts to observe that there is little evidence that such research has any influence on practice as portrayed in program descriptions. Indeed, it seems to me that the there is a persistent gulf between the communities of practice and of research that requires urgent attention.

The two solitudes of research and educational practice persist because research findings are not perceived as meaningful or accessible to practitioners. Practitioners are rarely partners or contributors to research. (Ants don't have much truck with entomologists.) In addition, significant research is rarely followed up. This is especially true of master's and doctoral research. In the recommendations to follow, I will make some suggestions for improving this situation.

CONSIDERATIONS FOR UNSTABLE TIMES

Let us now suppose that "business as usual" is an unsupportable assumption and that the social, economic and environmental orders are changing rapidly in uncertain directions. There are clear, sound voices that articulate our common experience of drastic changes in the social contracts that have, in recent decades, been the stability of our times. Writers like Berman (1981), O'Brien (1994), Waks (1995) and Saul (1995) paint a chilling picture of social, economic and environmental degradation that makes normal educational research pointless. The force of these disturbing views is enough to suggest that an entirely new and radical research program is warranted.

Thinking about a research agenda for uncertain and unstable times provides an upbeat antidote for the pessimism that can ensue from too much apocalyptic reading. For example, the stunning discoveries of Prigogine and others in self-organizing systems suggest a promising evolutionary future for societies that choose to allow the natural processes of self-organization full play (Jantsch, 1980). Similarly, Gregory Bateson's thought, as explicated by Berman (1981), represents another, related promising future direction. But there is no research in outdoor education that investigates how these radical world views might take shape in either our programs or our research. For any person who thinks that outdoor education and the schools will not be able to continue along their present lines for much longer, there is an urgent and exciting body of conceptual and developmental work to be done.

RECOMMENDATIONS

There are two sets of recommendations. The first involves extending and expanding practices that already exist but are too limited. Ewert (1996) has urged strategies that extend and deepen the connection among outdoor education researchers and workers in related fields, and his ideas are particularly cogent in relation to the schools. There is a growing body of research at the interface of outdoor education and the schools. That literature needs to be comprehensively and critically reviewed. This is especially true of the excellent work that is buried in unpublished theses and dissertations. The standards for dissertation writing in many universities, paradoxically, tend to make very dull reading. Somehow, the insights and discoveries of graduate students need to be coherently and interestingly brought into the light.

Researchers in outdoor education who are based in departments of recreation or physical education should seek collaborators within schools of education. There is much to gain and to give. For example, it is clear from numerous program descriptions that outdoor education is often delivered by recreational leaders to school children with minimum involvement by the classroom teachers (for an exception, see Smith, 1995). The two worlds of outdoor recreation and school may have mutual admiration, but they have little real communication and little sense of shared purpose and common professional language (Horwood & Raffan, 1988). Outdoor leaders need to be trained to better understand teachers and teaching, and teachers need to be better educated to make maximum use of outdoor education opportunities. These changes in instructor training and related research can happen only by expanding collaboration.

Why is collaboration lacking? There is a need to study the variety of barriers and inhibitions to collaborative work, both in program delivery and in research. And there is a need to study the efforts to overcome them. Among the most serious inhibitors are school personnel's discomfort in the outdoors, the systemic demands of the curriculum for high test scores in the schools, and the system of academic rewards in the research community. All of these point to disciplinary isolation and to the tendency for evaluation, or the fear thereof, to drive our every action. There is a need to critically assess evaluation in the context of outdoor education and the schools.

The second set of recommendations involves breaking nearly new ground. An old barrier exists between the communities of research and professional practice in education. Researchers, for good reasons, tend to choose problems that are irrelevant to the concerns of practitioners, and publish findings in places and forms that practitioners rarely, if ever, explore. The gulf between research and practice needs to be bridged. Several existing trends could help. Theory needs to be exercised more as dialogue with practice and less as prescription. Teachers and outdoor leaders need to be recruited as coinvestigators with researchers. Outdoor education research should be presented at teacher conferences, and schools researchers should be invited to outdoor education gatherings. Multiple research perspectives— positivist, naturalist, and dialectical—need to be deployed.

If the social, economic and environmental fabric of the last quarter of the 20th century is unravelling, then the call for research into new concepts and relationships is pressing. For example, what has outdoor education in a school context to say to life after school? The conventional answer is that graduates use their educations for employment, and their outdoor education experiences should lead to appreciation of the natural world and recreational opportunities as refreshment from work. But as fewer and fewer people come to have jobs, there is a clear need to reconceptualize what we are about. The introduction of chaos theory into social systems raises further demands for basic conceptual research into its implications for outdoor education structures. We are living in interesting times.

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OUTDOOR EDUCATION AND SPIRITUALITY

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> *Man is like a bird with two wings that potentially can lift him to the pathway-of-the-stars (spiritual life). Too often, however, he is like a bird with a broken wing. One wing is physical consciousness thinking process, and the other is the spiritual, including the subconscious dream pattern. When both the wings are functioning with the rhythm of the Beauty path (spiritual path), they have mighty power, and can carry the soul to joyful heights.*
>
> David Villasenor, *Tapestries in Sand*

The question at hand is that of researching the impact of outdoor recreational and educational experiences on the spiritual development of the individual. I approach that question from the perspective of a facilitator of personal growth who has long advocated the methodologies considered as experiential outdoor/challenge/adventure education. I must admit from the onset that I also approach that question with some reservations, for I wonder if it is premature to advocate research when the theory and practice of experiential outdoor challenge/adventure education (hereafter referred to as challenge/adventure education) have given so little attention to the impact of their programs on the spiritual development of clients. One of the important issues before experiential and outdoor professionals is that of appropriate focus on the "spiritual quest" of clients and the potentials of the evolving methodologies of challenge/adventure education for enhancing spiritual development.

One has to wonder why the spiritual journey has received so little attention in challenge education. In an assessment of the impact of experiential education on students, Conrad and Hedin concluded that the methodology contributed to psychological, social, and intellectual/academic development of students (1981). There was no attention to, nor mention of, the impact of experiential programs on the spiritual development of the youth. One can only wonder, it they had designed their study to include assessment of the latter, would there be suggestion of a gain? A decade later, Stringer and McAvoy did find that spiritual development was an important aspect of the wilderness adventure for many people (1992).

Over 20 years ago, Rey Carlson, distinguished professor of recreation and outdoor education at Indiana University, wrote on the values of camping experiences (1975). He noted that one of the goals toward which many camp activities are directed was that of developing spiritual meanings and values. There is a long history of church camps (Graendorf & Mattson, 1984), and challenge/adventure education theory and practice have strong roots in outdoor education and camping education (Smith, Roland, Havens, & Hoyt, 1992), yet professionals have seldom focused on the spiritual aspects of the challenge/adventure education sequence.

The goals of challenge/adventure education programs are most often stated in terms of developing dimensions of self-concept (self-esteem, self-confidence, locus of control, empowerment, etc.) and/or improvement of social adjustment (communication skills, cooperation, sensitivity, etc.). Sometimes there are goals for teaching leisure skills, enhancing environmental

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awareness, community service, or stimulating academic performance. In very few situations is a challenge/adventure education program offered with the stated goal of enhancing the "spiritual" dimensions of clients, although this may well be a latent goal in some programs. I believe it is time to bring this latter goal into greater focus and to recognize the potential impact of the challenge/adventure education program on the spiritual development of clients.

Challenge/adventure education can be defined as a humanistic and holistic methodology for the facilitation of growth and learning, based on innovative strategies that have roots in outdoor education, adventure education, awareness education, somatic education, humanistic education, and experiential education. The challenge/adventure education methodology has also been influenced by the concepts of cooperative games, the practices of camping and outdoor recreation, and the traditions of the rituals, ceremonies, and basic cosmological orientation of the Native Americans and other indigenous peoples (Smith et. al., 1992).

THE SPIRITUAL QUEST

The spiritual quest can be defined as an individual's attempt to clarify personal values about life, death, the universe, a Supreme Being, and/or a search for understanding, meaning, purpose and direction. It is a human endeavor that has always been part of the human experience, but it seems to have increased in importance and attention over the past decade as many people have attempted to make some sort of sense out of what some see as the nonsense that is about.

Life as a journey is a common metaphor in society. Journey as adventure or adventure as journey are often discussed by challenge/adventure education leaders and incorporated into many programs. The journey is one of searching about the wilderness beyond and also the wilderness within (Smith, 1990). The search is, in reality, a spiritual quest, as each person seeks personal answers to questions of "Who am I?" "Why am I?" "Where am I going?" and "What is my relationship to all that is?"

History is filled with cyclic trends away from organized religions and concern for spiritual development and then back again. It may well be that as the new millennium approaches, there is a re-awakening of the spiritual quest and that more people are now concerned about both personal and humankind spirituality. Many attitudinal surveys suggest this trend. Sixteen years ago, Ferguson (1980) reported on a Gallup Poll that indicated that nearly 80% of college students wanted to find "spiritual meaning." *The Journal of Holistic Education* devoted a special issue to spirituality education (Miller, 1993). One could also suggest that contemporary focus on the wisdom of Native American traditions is reflective of people's concern for finding a new cosmological orientation. This trend is reinforced by the parallels between contemporary focus on earth ethics and spirituality.

A number of authors have addressed the issue of spiritual and religious development (e.g., Fowler, 1981; Heller, 1986; Kohlberg, 1981; Meissner, 1974; Moran, 1983). Many have noted that developing young people have the need for spirituality. Robert Coles (1986, 1990) has suggested that all children are "seekers, as young pilgrims," with considerable concern for making sense out of their life and finding their place in the universe. He spent time with young people of Christian, Jewish, Islamic, and Native American heritage and found that most of them could verbalize their own "journey of faith."

As mentioned above, the stated goals of challenge/adventure education programs are most often concerned with aspects of self, others, and the self-other interdependence. Rarely are there goals for enhancing awareness of the environment and the self-environment interdependence. Even more rarely do programs state goals for enhancing awareness of The Other and the self-other-environment-Other oneness (the spiritual quest). My point would be that even if our stated program goals are basically psychological, they are related to the holistic growth and development of the client and are, thus, influential on the spiritual quest. Our clients often internally process and interpret the experiences of challenge/adventure education in terms of spiritual awareness. It is, therefore, impossible for challenge/adventure educators to avoid attending to issues of spirituality. Even if *our* goals are restricted to the psychological realm, more is happening for our clients. We can define ourselves simply as facilitators of personal growth and learning, but we must recognize that personal growth (development/transformation of the self) involves seeking awareness and understanding of all that is in the web of life, including the spiritual quest.

RECOMMENDATIONS FOR RESEARCH

Certainly, if challenge/adventure education leaders pay heed to the needs, motivations, and personal goals of their clients, and to the apparent trends of societal attitude, then there will be increasing attention to the spiritual quest as the 21st century unfolds. As programs set goals to enhance the spiritual development of clients, three patterns of research on the topic will be required:

1. *Assessment of the needs and goals of various client populations.* This will be important in helping programs set goals and design appropriate experiential sequences to address the spiritual needs and goals of clients.
2. *Study of the contribution of various challenge/adventure experiences to various dimensions of the spiritual quest.* Such research will involve study of program sequences and also specific experiential activities.
3. *Evaluation of program effectiveness.* An important aspect of this research on program validity will be the longitudinal study of the impact of outdoor programs on participants' spiritual discoveries and subsequent personal and social adjustment.

Researchers will face a number of problems and questions as they focus on spirituality in challenge/adventure programs:

1. *Defining the subject/process to be researched.* Is the term "spirituality" or the process of the "spiritual quest" too broad? Does it mean all things and different things to everyone? Should we distinguish between religion and spirituality? How can we do so in ways that will make spiritual quest-oriented programs acceptable to authorities and yet still serve the needs of clients?
2. *Overcoming the bias of personal/cultural perspectives on spirituality.* Challenge/adventure and outdoor educators are prone to a "nature spirituality" value system (thus the interest in Native American spirituality), but that is not the value orientation of most people. As the subject of focus is so value-laden, how do researchers become attuned to multi-cultural and idiosyncratic orientations?
3. *Understanding and dealing with the bias of western science and experimental methodology.* In psychology, for example, a behaviorist would argue against positing unnecessary and unmeasurable hypothetical constructs such as "self," psyche," "soul," or "spirit." Can research realistically identify and address a concept as personal—and at times ineffable—as "spirituality"?
4. *Appropriate assessment tools for evaluation of subjects' spirituality.* Most of the writing to date on spirituality and spiritual education has been theoretical or curriculum inspired. Moving to the research question will require assessment, and it may be that the qualitative methodologies (e.g., the use of personal journals for evaluation) will be the best choice.
5. *How do we, can we, should we deal with the issues of separation of church and state?* Is it possible for challenge/adventure educators to program for spiritual development without facing this issue?

As researchers and leaders in challenge/adventure education focus more on the spiritual quest of their clients, it is important for the leaders to focus on their own spiritual development. This cannot be overstated, because in the understanding of the self as physical being, social being, psychological/emotional being, and spiritual being, each challenge/adventure educator will become more effective in facilitating the growth and learning of others. As more and more leaders focus on their personal spiritual quests, I believe they will understand and support this call for further exploration of the relationship between challenge/adventure education and spiritual education and for increased attention to the spiritual quest of clients. Challenge/adventure education has evolved into a potentially powerful methodology for guiding humankind's transition into the 21st century. The self-search recommended for others is equally important for each of us. Krishnamurti (1981) summarized it well: "To understand life is to understand ourselves...and that is both the beginning and end of education."

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ETHICAL FRAMEWORKS, MORAL PRACTICES AND OUTDOOR EDUCATION

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Discoveries and insights from quantum physics and chaos theory help create new metaphors about ethical frameworks and moral practices in outdoor education. Using concepts such as fractals, fields, and strange attractors, we explore new ways to view research results, scholarly writings, and creative endeavors related to outdoor education. In addition, we evaluate four themes related to the present ethical discourse in outdoor education and sketch new directions for moral practice.

KEYWORDS: *Ethical frameworks, outdoor education, moral practice, chaos theory, mutual critique.*

INTRODUCTION

The image of fractals returned again and again as we wrestled with the mounds of information related to ethical frameworks, moral practices and outdoor education. Fractals are surprisingly simple patterns replicating to produce infinite levels of complexity. Shorelines, vegetation disbursement, crystal formations, and leaf patterns are natural demonstrations of this phenomenon (Figure 1). We discovered that our topic—ethical frameworks and moral practices of outdoor education followed a similar pattern; the more we looked, the more complexity and details we discovered. Like fractals, the complexity and details began to be the very essence of the beauty, the strength, and the diversity as well as the challenge. We discovered how difficult it is not to be certain; how uncomfortable we were with chaos. We quickly wanted to provide structure and categories to the information. With time, shifting patterns and shapes emerged from the unending sources of information that provide initial views of the fractal nature of ethical frameworks and moral practices in outdoor education.

THE FRACTAL NATURE OF ETHICAL FRAMEWORKS, MORAL PRACTICE AND OUTDOOR EDUCATION

We suggest that the seemingly straightforward concept of values is analogous to the initial, simple, non-linear equation of a fractal. Values are ideals, customs or institutions of society toward which individuals or groups have an affective regard, and value claims are statements about worth (see Table 1). These values may be positive, such as freedom or respect, or negative such as greed and cruelty. The value claims of outdoor education are often interwoven and implied within the very structure and outcomes of programs—trust, cooperation, environmental awareness, self-awareness, freedom, justice, character, community, and respect (Stern & Dietz, 1994).

The values woven into narratives and (auto)biographies of naturalists, explorers, adventurers, indigenous people (Carson, 1962;

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Grey Owl, 1975; Lopez, 1986; Muir, 1979) provide the basic sustenance for moral discourse and practice in outdoor education. Values are often implied in the stories about people, expeditions, events, and places or the directions to complete an outdoor skill or task. The guideposts and motivating forces behind Kurt Hahn's work include growth, character, conflict resolution, and positive social interactions (Richards, 1990). Early childhood experiences with the outdoors or moral practice emerge as vital elements in developing life commitments to the natural environment (Bennis, 1989; Beringer, 1995; Cohen & Horm-Wingerd, 1993; Harvey, 1989-90; Miles, 1986; Palmer, 1993; Sebba, 1991). Climbing instructions or raft guiding procedures rest on assumptions that people should change the natural environment as little as possible (Long, 1993; McGinnis, 1981). The common ground between outdoor recreation, outdoor education, environmental education and experiential education can be found in a value base of respect, social responsibility, self-actualization, justice, and freedom for all living beings and the Earth. Furthermore, these values guide the search for relevant knowledge and appropriate behaviours (Casken, 1992; Tellnes, 1993). For example, the values of respecting the Earth and freedom for individuals have underpinned our efforts to increase the use of appropriate technology and minimum impact techniques, preserve wildlands, and design inclusive outdoor education programs (Morgan, 1993; Schleien & McAvoy, 1989).

If there are repeated iterations of the initial equation (values and value claims), the fractal shapes of ethical frameworks emerge. Ethical frameworks are complex sets of value claims, rationales, and rules that guide behaviour and include the cognitive processes (moral reasoning) that lead to decisions and actions (see Table 1). Leopold's (1949) Land Ethic, Dustin, McAvoy, & Schultz's (1995) philosophical foundation for the park and recreation profession, Hunt's (1986) presentation of ethical dilemmas, and Mitten's (1985) feminist critique are examples of discussions about ethical frameworks. Given the challenges of a diverse and changing

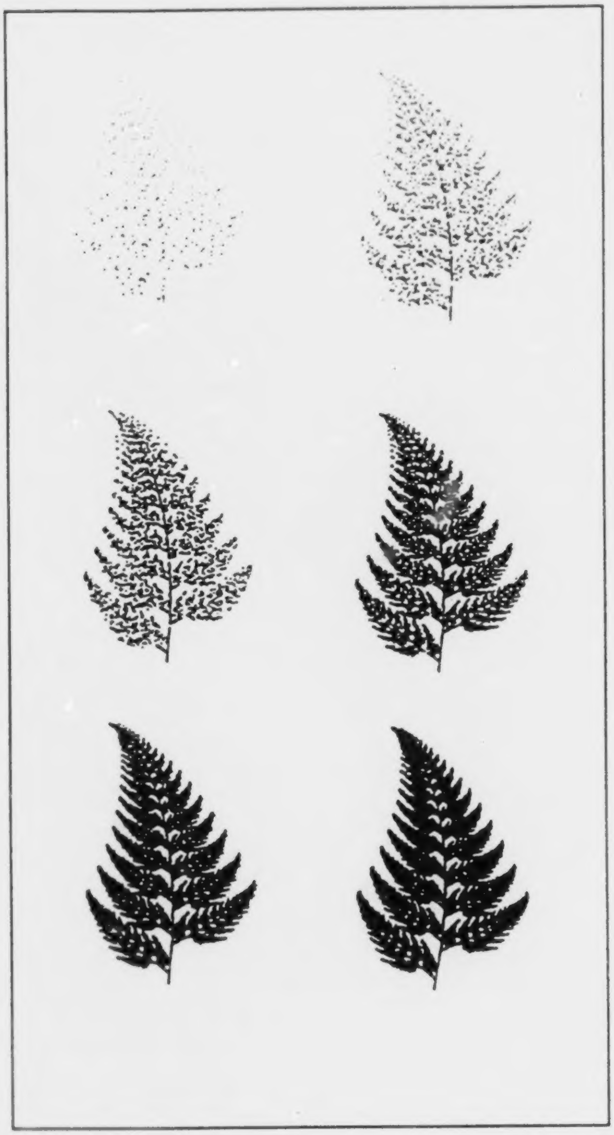

Figure 1. Example of natural fractal: fern leaves. This computer-generated fern is the product of Michael Barnsley's Chaos Game. Random iterations of a few simple equations work together to create the overall shape of the fern. Complexity and detail emerge from simplicity as the result of chaos and order working in concert together.

TABLE 1

Examples of Value Claims, Ethical Frameworks, and Moral Practices

Values	**Value Claims** (Statements of Worth)	**Ethical Framework** (System of Propositions and Premises)	**Moral Practice** (Intersection of Behaviour and Reflection)
Trust	Cooperation is the best way.	Leopold's Land Ethic	Reflective action
Virtuous Person	Frogs have intrinsic value.	Rawl's Concept of Justice	Self-exploration
Nature Centers	The land is valued at $2 million dollars.	Utilitarian cost/benefit analysis	Making visible the unconscious

society, discussions about ethical frameworks are essential for moving toward a congruency between values and behaviour. Repeating the iterations once again leads us to moral practice, that which pertains to right conduct or behaviour. Moral practice is the systematic application of values and ethical frameworks to one's life, or the transition of values and ethical frameworks into practice (see Table 1). Moral practice implies an ability to reflect and adjust behaviour in accordance with the ethical frameworks, "right thought with right action." Moral practice, or ethically-based behaviour (Matthews, 1996), is a complex dynamic that involves awareness of ethical issues; content knowledge; critical thinking skills and dispositions; psychological attributes related to locus of control, affective responses, responsibility, and gender roles (Redford, McPherson, Frankiewicz, & Gaa, 1995; Samuels, 1990); knowledge of strategies for change; mindfulness and reflective abilities; and social networks (Sia, Hungerford & Tomera, 1986; Sochting, Skoe, & Marcia, 1994). Flanagan (1991) and Corral-Verguego (1993) suggest that ethical and moral ideals need to be developed in accordance with social psychological realities and cognitive abilities to think critically. Therefore, work in the fields of psychology, philosophy, religion and education is relevant to our questions about ethics and outdoor education (Buzzelli, 1993; Gessner et al, 1993; Gilligan, Ward, & Taylor, 1988; Weingberg, Yacker, Orenstein, & DeSarbo, 1993; Wilson, 1995; Wygant & Williams, 1995).

Ethical frameworks and moral practice emerge from narratives and stories (e.g., The Land Ethic or ecocentric worldviews) *and* from careful, philosophical inquiry (Dustin, McAvoy, & Schultz, 1995; Fox, 1994; McAvoy, 1990; Nash, 1987; Wurdinger, 1995). From similar experiences, diverse and sometimes contradictory ethical frameworks evolve. Robert S. MacArthur (1995), in his Kurt Hahn Address, stated: "When we, who would see ourselves as intent upon creating a just and compassionate world, find ourselves polarized over issues of diversity, inclusion, awards, or anything else, for that matter, then we have not stepped beyond our comfort zones to explore new ground (p. 32)." It is not that the intent of outdoor educators is not pure or our people not committed and good. Outdoor educators need to venture further onto pathways that explore, develop and clearly articulate the ethical frameworks that guide our various moral practices, rather than just identify appropriate behaviours. When such explorations are structured to include meta-cognitive and critical thinking content and skills, peer interactions, and mutual critique, outdoor education practitioners enhance moral practice (Weber, 1993). It is not necessary to create a unified position for all to belong or adhere to. In fact, we must make a subtle distinction between belonging to a group or adhering to a position, which implies certain restrictions and norms, and *inclusion*, where people can function within the totality as individuals with self-respect grounded in their differences, similarities and interdependencies (Mitten, 1985).

Such complexity implies that a variety of forms, ranging from experiential activities and artistic creations to scholarly essays and research, are necessary to explore the ethical frameworks and moral practices of outdoor education. First, there are *value pieces* that focus on values. These pieces are often personal reflections, descriptions of program ideals, choreographed movements, "talks" or presentations, belief systems, fictional and poetic accounts, outdoor experiences, or anecdotal accounts. Second, there are *scholarly pieces* that adhere to the standards and requirements related to scholarly discourse specifically in the areas of philosophy, history, social theory, critical theory, feminist critique, and critical thinking. These pieces are grounded in specific disciplines and/or structure requirements that allow the readers to judge the worth of the piece in relation to a standard as well as the position presented. Third, there are *research pieces* that adhere to the specific requirements related to qualitative and quantitative research processes and standards. We do not wish to imply that any of these are more valuable than the other; in fact, we see them as different fractal shapes necessary for nurturing values, ethical frameworks and moral practice, as well as preserving the creativity, diversity, complexity and beauty essential to outdoor education. We do think that the level of quality and multi-disciplinary interactions will affect how these forms enhance ethical reasoning, support moral practice, and encourage interdisciplinary alliances and mutual critique.

FRACTAL THEMES RELEVANT TO ETHICAL DISCOURSE IN OUTDOOR EDUCATION

We suggest that there are six prominent themes directly or indirectly related to ethical frameworks and moral practices in outdoor education. First, research in outdoor education has primarily focused on individuals and discrete connections between attitudes, knowledge, affect, and behaviour. Outdoor education programs can increase the outdoor knowledge of the participants (Mio, Thompson, & Givens, 1990; O'Connor & Tindall, 1990; Peters, 1994). The studies have indicated that experiences in the outdoors and experiential learning related to the natural environment, with discussions structured for critical thinking and metacognition, lead to an increase in knowledge and moral reasoning (Day, 1993; Swanson & Hill, 1993; Wainryb & Turiel, 1993). Attitudes, knowledge, affect and behaviour seem to be related, but the research has been unable to definitively identify a causal relationship (Arcury, 1990; Armstrong & Impara, 1991; Finger, 1994; Gudgion & Thomas, 1991; Knapp, 1995). The link with behavioural change still eludes researchers, and it may be that behaviour can be changed without an associated improvement in knowledge, internalization of ethical frameworks, or moral reasoning. (Benton, 1993; Blaikie, 1993; Gigliotti, 1992; Hines, Hungerford, & Tomera, 1987; Self, Schrader, Baldwin, & Wolinsky, 1993; Unger, 1994).

Second, the scholarship about ethical frameworks relevant to outdoor education is becoming more prominent. Dustin, McAvoy & Schultz (1995), Fox (1991), Hunt (1995), McAvoy (1990), Mitten (1995, and Phipps (1993) have been strong voices for articulating rationales relevant to our conceptual frameworks and moral practice. Recent interviews of outdoor leaders and current discourse about outdoor education values suggest that there is potential for enhancing and extending these discussions among ourselves and across disciplines (Evernden, 1992; Gass, 1993; Gessner, et al., 1993; Herrera, 1992; Horowitz, 1994; Pilgrim, 1980; Priest & Baillie, 1987).

Third, the research on moral development in psychology and education indicates that the development of moral reasoning is complex, involves various factors (e.g., discipline strategies, pedagogical techniques, peer interactions, educational levels, and community connections), and is directly applicable to our research in outdoor education (Dyck, 1993; Keef, 1993; Keen, 1991; Lebuis, Schleifer, Caron, & Daniel, 1993; Miller, 1994; Schultz & Stone, 1994; Yount &

Horton, 1992). Furthermore, studies in other fields suggest that typical components of outdoor education programs (e.g., experiential learning, peer interactions, direct experiences, group discussions, critical thinking and intellectual perspective taking) enhance moral reasoning (Axelrod & Lehman, 1993; Batchelder & Root, 1994; Derksen & Gartrell, 1993; Greenwald-Robbins & Greenwald, 1994; Haste, 1993; Langford, 1992; Tudin, Straker, & Mendolsohn, 1994). There is much work to be done to highlight moral reasoning associated with outdoor education programs and ethically-based behaviour in the outdoors. This work may be best explored through collaborative research, mutual critique, and critical dialogue about ethics and the natural environment.

Fourth, moral practice also encompasses relational characteristics: love, friendship, compassion, caring, passion, and intuition. Insights from the work of Gilligan (Hekman, 1995) and Willett (1995) suggest that moral practice is also grounded in emotions, relationships, and non-verbal interactions. Exploring avenues for identifying these processes, communicating the phenomena, and creating opportunities for the interactions are essential for understanding the totality of moral practice.

Fifth, spiritual journeys, traditions, and insights are an important aspect of relating to others, developing ethical frameworks, and attaining ethically-based behaviours. For many, basic values are embedded in spiritual contexts and practices (Gottlieb, 1995; Shapiro, 1989). The recent surge in interest about various spiritual views of the natural world are important to outdoor education. Not only do these spiritual traditions provide content for programs, but they are highly relevant to constructing a concept of the natural world, refining moral reasoning, and implementing moral practice.

Welch (1990) maintains that an individual or group can be ethical only when there is mutual material interaction and critique, the final theme. Feminist critiques, challenges from African-Americans, commentary by representatives of Indigenous communities, and initiatives representing people with disabilities nourish the field of outdoor education (Ashley, 1990; Bersoff & Miller, 1993; Datillo & Murphy, 1987; DiChiro, 1987; Diaz-Guerrero, 1992; Greer, 1992; LaDuke, 1991; Levy, Taylor, & Gelman, 1995; Miller, 1994; McClintock, 1992; Oles, 1992; Sheppard, 1995; Skoe & Diessner, 1994). Through revisiting core values and inviting conflicts, critiques and contradictions to rise to the surface, outdoor educators can strengthen existing or create new ethical frameworks and moral practices (Iwata, 1992; Ostrovsky, Parr, & Gradel, 1992). Many of the critiques focus on outcomes or behaviours (e.g., exclusion, accessibility, or use of language). However, all actions are driven by values, and people choose (although not always consciously) specific behaviours and interactions dependent upon some connection (e.g., through ethical frameworks) with their basic values. Behavioural change that can respond to individual contexts and changing environments requires attention to congruence between ethical frameworks and actions.

WHAT DOES IT ALL MEAN?

We would like to suggest that the fractals of ethical frameworks and moral practices in outdoor education function as complex, dynamic, and changing open systems. Furthermore, we believe that we do a disservice to the systems, ourselves, and outdoor education when we simplify the ethical frameworks and moral practices of outdoor education without contextualizing and maintaining the complexity. For that reason, it is important to embrace the complexity, *making visible the basic values, ethical frameworks, moral reasoning and behavioural outcomes related to outdoor education,* including relevant multi-disciplinary and cross-cultural perspectives and research. The patterns that connect humans with the natural world, with other humans, and with ethical discourse and moral practice are vital, sustaining processes. The "now-you-see-it, now-you-don't" quality of attitudes, affect, knowledge and behaviour will continue to drive us crazy as long as we try to decipher cause and effect between well-bounded concepts (i.e., attitudes, knowledge, self-esteem, and behavioural outcomes, among many). It might be more helpful to explore different variables (e.g., relationships over time, synergistic patterns of behaviour, communities of diversity) in order to learn about the critical points and transition phases in the evolution of ethical frameworks and moral practice for outdoor education. The goal would be not to control, but to increase our intuitions about how the varied systems work and how we can interact with them more harmoniously (Briggs & Peat, 1989). Figure 2 is our *initial attempt* at describing some of the relationships and processes applicable to values, ethical frameworks and moral practices of outdoor education.

WHERE DO WE WANT OR NEED TO GO FROM HERE?

Our search for understanding, control and predictability has led us down numerous paths of practice and research. We as authors are struck with the sentiment expressed by Doug Knapp at the 1996 Council on Outdoor Education Research Symposium: Even as his research moves closer to explaining and quantifying changes in environmentally responsible behaviour that result from educational programs, he has this sense that taking more groups to the top of a mountain at sunset and playing his guitar is just as significant. We suggest that he is tapping into a force or dynamic related to the space and relationships surrounding the mountain, sunset, living beings, guitar, and music; the knowledge about the outdoors; the positive social interactions; the natural environment; and the personal value demonstrations.

Continuing with metaphors from physics, the concept of fields comes to mind (Wheatley, 1992). Field theory was developed as an attempt to explain action-at-a-distance. Magnetic attraction or Newton's and Einstein's different views of gravitational fields are examples of action-at-a-distance. Fields inhabit space, are invisible but nonetheless powerful, and encourage us to think of a universe that resembles an ocean filled with interpenetrating influences and invisible connecting structures. If we think of values, ethical frameworks and moral practices as fields, we believe we have an effective metaphor for understanding why concepts and programs in outdoor education influence participants, leaders, and observers as well as they do. Simply talking about ethics, sharing values, and participating in activities about ethical narratives and relationships creates fields and inspires action-at-a-distance. The metaphor also changes the nature of our attention in six areas:

1. *Nurture the Human/Natural Connection:* Fundamentally, outdoor education is about connecting humans with the natural world and each other. Outdoor education is often the primary area for connecting humans with the Earth. Science is continually enhancing and deepening our understanding of the natural world, and there continues to be a need to explore, share and discuss how we want to structure and enhance the quality of these relationships. Outdoor educators need to act as grand evocateurs of a reality that enhances the potential for respectful and compassionate interaction among humans and with the Earth. Whether it is connecting with cyberspace (Brookes, 1993), working with inner city youth in the outdoors, preserving wilderness areas, or providing quiet, solitude experiences, outdoor educators must strengthen current strategies and create new strategies that enhance interactions, ongoing relationships, and compassion (Cooper, 1994; Kleymeyer, 1992; Knapp, 1994). By focusing on relationships, researchers and practitioners may discover invisible connections that structure moral practice in the outdoors.

2. *Making Visible and Sharing Ethical Frameworks and Moral Reasoning:* There is an urgent need to articulate ethical frameworks and moral practices that respect the Earth. There is some indication that those individuals who can competently apply critical thinking content and processes to outdoor experiences, embrace complexity and ambiguity, and develop ecocentric ethical frameworks will engage in environmentally responsible behaviour (Glassman, 1994; Thompson & Barton, 1994). We need to

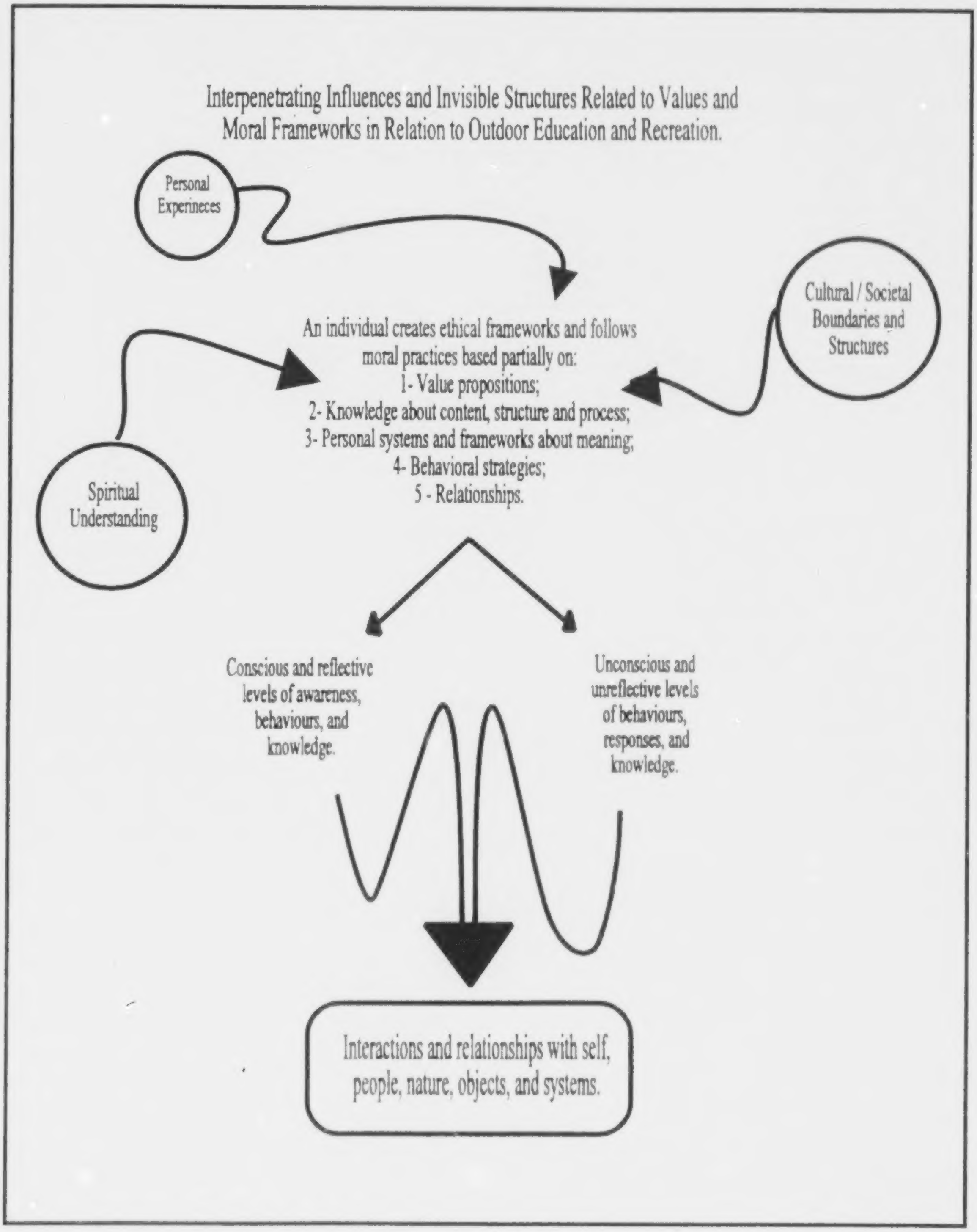
Interpenetrating Influences and Invisible Structures Related to Values and Moral Frameworks in Relation to Outdoor Education and Recreation.
Personal Experineces
Cultural / Societal Boundaries and Structures
Spiritual Understanding
An individual creates ethical frameworks and follows moral practices based partially on:
1- Value propositions;
2- Knowledge about content, structure and process;
3- Personal systems and frameworks about meaning;
4- Behavioral strategies;
5 - Relationships.
Conscious and reflective levels of awareness, behaviours, and knowledge.
Unconscious and unreflective levels of behaviours, responses, and knowledge.
Interactions and relationships with self, people, nature, objects, and systems.

Figure 2. Interpenetrating influences and invisible structures related to values, ethical frameworks, and moral practices in outdoor education.

extend ourselves into scholarly writings, articulate ethical frameworks, enhance reflective capabilities, participate in artistic and intuitive processes, wrestle with complexity, and support appropriate research. These paths of inquiry will require us to develop skills related to other disciplines (e.g., art, philosophy, environmental ethics, feminist critique, religion, ethical leadership, critical theory, history). Since there is some indication that a commitment to ethical practice is a lifelong journey, hearing the stories and assessing the ethical frameworks and practice of others helps us (1) identify the challenges; (2) encounter boundaries of concepts, discourse, knowledge, and individuals; (3) find inspiration and support for the ethical and moral challenges facing outdoor educators; and (4) connect with energy sources to sustain ethical behaviour over time. As individuals share specific ethical narratives, invite others to critique and respond, an "ethical field" will be generated that engenders ethical reasoning and action-at-a-distance in outdoor education.

3. *Spiritual Contexts for Outdoor Education:* Integrating spiritual traditions and perspectives into outdoor education must be coordinated with respect for diversity, "epistemic privilege,"[1] and power relationships (Greeley, 1993; Kanagy & Willits, 1993; Oles, 1992).

4. *Caring and Mindful Relationships Among People and with the Earth:* Some research (Dyck, 1993; Kochanska, 1994; Krebs & van Hesteren, 1994) suggests that the style and discipline strategies of leaders are pivotal for the participants' moral development. Therefore, both ethical leadership and followership in outdoor education becomes a vital enterprise related to sustaining outdoor education, influencing others, and educating the next generation. Ethical leadership and followership will require that scholars and practitioners alike attend to personal development and change (Chaleff, 1995; Flannery & Mary, 1994; Fox, Parsons, Barnett, & Reed, 1995; Grube, Mayton, & Ball-Rokeach, 1994; Kochanska, 1994; Krebs & van Hesteren, 1994; Myers, 1990). Fox and McAvoy's (1995) interviews with outdoor leaders indicated that a "dynamic self-awareness" is a pivotal process. Dynamic self-awareness refers to the quality that an individual is able to reflect about her or himself; to attend to multiple levels of reality; to move between personal and other issues; to choose values of life, compassion and openness; and to make visible the multiple levels of patterns, meanings, interpretations and realities. Through deliberate reflection and writing about experiences, values, and rationales, outdoor educators foster understanding about thinking and behaviour. Furthermore, shared reflections and research provide opportunities for mutual critique and engenders moral practice. Through enhancing information flow, dialogue and reflection about the guiding visions of outdoor education, we create a universe of experiences, information, and relationships (e.g., a field) about ethical frameworks and moral practices in the outdoors. When information and ethical discourse are freely generated and exchanged among ours and other disciplines, we spawn hope and potentials relevant to protecting natural areas and en-

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[1] "Epistemic privilege" as used in this paper extends the work of Narayan (1988). It is the concept that members of oppressed, marginalized or specific groups have a more immediate, subtle and critical knowledge about the nature of their group's culture, power relations, and experience than people who are non-members of the oppressed group. This claim does not need to imply that the group has clearer or better knowledge. Epistemic privilege claims that these individuals have all the details of the ways in which their oppression and power relations are experienced and of the ways in which the oppression and power relations affect the major and minor details of their social and psychic lives.

hancing humans' relationships with the Earth.

5. *Mutually Critiqued Ethical Frameworks:* If, as Welch (1990) suggests, we can be ethical only when we materially interact and engage in mutual critique, outdoor educators must explore ethical issues with a multitude of audiences (e.g., ourselves, advocates of opposing positions, scholars from other disciplines, representatives of other cultural back grounds, and people not normally represented in the dialogues) (Gough, 1993; Miller, 1994). These explorations must attend to standards of critical thinking, respect for diversity and opposition, philosophical propositions, historical analysis, research standards, and social theory among many. We believe that our literature search has demonstrated that many people are concerned about ethical frameworks and moral practices related to the natural world. As an academic field, we need to be a voice for ethical discourse in the discussions of both professionals and scholars. If moral reasoning is nurtured by group interactions, personal experiences, meaningful relationships, structured dialogue, pedagogical strategies, and experiential learning formats situated in the outdoors, outdoor education and outdoor educators have a vital part to play in current dialogues in psychology, critical theory, sociology, business and management, environmental science, and education about ethical development and moral practice in the outdoors.

6. *A Complex Systems Approach:* Finally, we would like to propose that we keep our eyes on the complex nature of the systems of values, ethical frameworks and moral practice in outdoor education, even as we explore individual parts and interactions. If research on moral development is applicable, maintaining complexity also supports the development and refinement of moral reasoning (Tudin, et al., 1994). Again, a concept from quantum physics emerges: the phenomenon called "strange attractors" (Wheatley, 1992). The name is well-suited for this phenomena of which we understand so little. Strange attractors are basins of attraction that pull a system into visible shape. The area "attracts" energies, potentials and material from many sources and dimensions. Scientists know something will occur and can provide probabilities, but they cannot predict or control what will emerge. We suggest that it is imperative that we create "value attractors" in outdoor education with as many living beings from as many perspectives as possible. The act of drawing information and people into the basin initiates the process: applying research from other areas, sharing outdoor education experiences and research, developing interdisciplinary research teams, submitting outdoor education research for critique in other fields, and entering scholarly dialogues. Table 2 provides a partial list of relevant journals that highlights the immense number of opportunities for accessing "strange attractors." We are indicating a direction to follow and trusting that the metaphors and processes inherent in a new understanding of the physical world will translate to a new understanding of ethical frameworks and moral practices in outdoor education.

COMMITTING TO THE JOURNEY

We certainly struggle to avoid the powerful pull of looking for right answers and certainty. We realize the need for right answers and certainty is a reflection of old habits and paradigms. Trusting the field of outdoor education to generate its own information and self-organize is not easy when you have been trained to trust in the visible. It is disquietingly fascinating to embrace the invisible patterns of energy and connections. We are suggesting a journey of mutual and simultaneous explorations, where solutions are temporary events specific to a context and developed through relationships of persons and circumstances.

Values, ethical frameworks and moral practices embrace the essence and the very best of outdoor education. They are holographs of a dynamic and complex system that nurture both

TABLE 2

Partial List of Relevant Journals

OUTDOOR, ENVIRONMENTAL & EXPERIENTIAL EDUCATION	**ETHICAL FRAMEWORKS**	**MORAL DEVELOPMENT & PRACTICE**
Journal of Experiential Education	Environmental Ethics	Environment and Behavior
Journal of Environmental Education	Trumpeter	Journal of Environmental Psychology
Australian Journal of Environmental Education	Interaction	Human Organization
Journal of Adventure Education and Outdoor Leadership	Winds of Change	Journal of Adolescence
Coalition for Education in the Outdoors Research Symposium Proceedings	Akwe'kon Journal	Creativity Research Journal
Environmental Education and Information	Grassroots Development	Developmental Psychology
Legacy	Merrill-Palmer Quarterly	Child and Youth Care Forum
Buzzworm	Hypatia	Communication Research Reports
Pathways: The Ontario Journal of Outdoor Education	Environmental Values	Journal of Applied Communication Research
South African Journal of Environmental Education	Canadian Journal of Philosophy	Journal of Research on Adolescence
Children's Environments	Whole Terrain	Early Education & Development
International Journal of Wilderness	Terra Nova	Journal for Specialists in Group Work
Journal of Natural Resources and Society	Inquiry	American Sociological Review
Parks and Recreation		Teaching of Psychology
Recreation Canada		Psychology: A Journal of Human Behavior
Environment Views		Australian Psychologist
Orion		Journal of Business Research
Borealis		Journal of Social Issues
Environmentalist		Leadership Quarterly
Ecologist		High School Journal
Restoration & Management Notes		Journal of Applied Social Psychology
Geographical Education		Social Development
Earth Ethics		Alberta Journal of Educational Research
Taproot		Child Development
Human Ecology Review		Behavior Analyst
Earthways		Health Promotion International
Journal of Ecoforestry		Cross-Cultural Research
		Youth and Society
		Educational Psychologist
		Canadian Review of Sociology and Anthropology
		International Journal of Adolescence and Youth

human beings and the natural world. Our knowledge embraces parts, such as affect, attitudes, knowledge and behavior, as well as wholes, such as living beings, life-stories, narratives, ethical frameworks, and ecological systems. We return again and again to the concept that it is information that gives order, that prompts growth, that defines what is alive. Information is both the underlying structure and dynamic process that ensures life (Wheatley, 1992). Although we experience life, such as our bodies, as stable forms, our bodies change frequently. Our skin renews itself every month, our liver every six weeks, and our brain every twelve months. In spite of this continual renewal, our bodies remain constant, due to the organizing function of the information contained in our DNA.

> *At any point in the bodymind, two things come together—a bit of information and a bit of matter. Of the two, the information has a longer life span than the solid matter it is matched with. As the atoms of carbon, hydrogen, oxygen, and nitrogen swirl through our DNA, like birds of passage that alight only to migrate on, the bit of matter changes, yet there is always a structure waiting for the next atoms. In fact, DNA never budges so much as a thousandth of a millimeter in its precise structure, because the genomes—the bits of information in DNA—remember where everything goes, all 3 billion of them. This fact makes us realize that memory must be more permanent than matter. What is a cell, then? It is a memory that has built some matter around itself, forming a specific pattern. Your body is just the place your memory calls home (Chopra, 1989, p. 87).*

In outdoor education, we replace the material beings and programs around the values of outdoor education (i.e., the coding information) that seem to remain constant. The ongoing processes of searching, constructing, and sharing information about outdoor education and ethically-based behaviour is our very life. Specifically, outdoor educators need to (1) embrace the complexity and chaos of ethical frameworks and moral practice in outdoor education, (2) nourish a dynamic self-awareness, (3) make visible diverse ethical frameworks, (4) develop collaborative multi-disciplinary, and cross-cultural teams, and (5) invite mutual critique from people not normally part of the dialogue. Through these actions we will maintain our relationships with each other, with all living beings, and with the Earth as we meet the challenges of a changing world. Like all journeys, this one moves us through both mountains and canyons, the fears of the unknown and the joys of deep recognition. Some shapes and landmarks are already apparent as we re-affirm and re-connect with areas we have traveled before. Others wait to be identified like first descents or ascents. No one, especially us, can say where the journey is leading. But the companionship of us all promises to be fruitful and we can feel the adventurer's excitement rising in us. We look forward to our discussions and working together with people who challenge us and bring new perspectives. We are glad to feel in awe and humbled again.

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PROVIDING AN AUTHENTIC WILDERNESS EXPERIENCE? THINKING BEYOND THE WILDERNESS ACT OF 1964

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Six facets of a wilderness experience are suggested (oneness, humility, primitiveness, timelessness, solitude, and care) based on the writings of wilderness philosophers such as Henry David Thoreau and John Muir. In structuring our lessons in wilderness, we could do well to broaden our notion of wilderness beyond the Wilderness Act.

KEYWORDS: *Wilderness experience, experience sampling method, oneness, humility, primitiveness, timelessness, care*

INTRODUCTION

It is tempting for educators taking students into the outdoors to structure a component of their curricula based on the policies of the land owner. For instance, visiting a developed ski resort inspires lessons on skiing, resort management, training and competition and other activities condoned and encourage by the land manager. Similarly, visits to Forest Service lands might suggest discussion of multiple-use forestry, sustainability, forest ecosystems and such. But are the policies enshrined in the Wilderness Act of 1964 sufficient to capture the essence, fullness, and wonder of the received idea of wilderness? The Wilderness Act of 1964 raises to prominence the goals of providing "outstanding opportunities for solitude or a primitive and unconfined type of recreation."

Is this enough? Are we capturing the qualities of a wilderness experience that separate it from other outdoor recreation activities? An argument can be made that not orienting outdoor programs in wilderness to those unique qualities is a misappropriation of wilderness, just as it would be inappropriate to in most cases to teach gymnastics in a cathedral. The question remains, however, as to what it is that differentiates "authentic" wilderness experiences from other uses of the wilderness environment. As Sigurd Olson (1966) suggests:

> One of the great challenges confronting those who believe in the preservation of wilderness is to build a broader base of values than physical recreation, a base of sufficient depth and solidity to counter the charge that it exists for only a privileged and hardy few. (p. 215)

Indeed, it is one of the theses of this paper that such a solid ethic of wilderness had already existed, and that our investigations of the wilderness experience should expand to include it.

The Wilderness Act of 1964 (PL 88-577) has provided a stable and statutory basis upon which to manage and protect certain wildlands of the United States. The language of the Act and the individuals involved in the writing of the Act are part of what could be called a wilderness literary tradition. Each generation of these writers, conservation and preservation activists, and philosophers builds upon the work of those who went before it. The ideas and actions of men like Henry David Thoreau, John Muir, and Aldo Leopold still inspire the writers and

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activists of today. From these giants of American environmental literature comes a common thread of wilderness thought, a history and a philosophy that tries to capture the importance of wilderness and being in wilderness to the modern person.

Experiencing wilderness is more than "recreating." While the Wilderness Act of 1964 focused primarily on the types of recreation experiences that should be provided for by management, there is indication of deeper concerns than the provision of opportunities for hiking, camping, fishing and so on. Two main criteria distinguish areas defined as wilderness under the 1964 Act: degree of naturalness and the potential for solitude (Hendee, Stankey and Lucas, 1990). However, the so-called Eastern Wilderness Act of 1975 (PL 93-622) allows that areas of previous human activity could still be classified as wilderness. This undermines any arguments of strict purity and acknowledges that the criterion of naturalness is largely one of perception and interpretation. Rather, the Act seems to encourage the idea that wilderness be seen as an opportunity to experience lands in which natural processes are allowed to operate as freely as possible. This approach emphasizes the importance of wilderness as an intuitive, direct, and free way of knowing nature. The Eastern Wilderness Act is also the first time that 'inspiration', or reflection, is mentioned as a specific value of wilderness.

The six aspects of wilderness that follow are an attempt to group and categorize some of the disparate ideas of wilderness. They are primarily inspired by the works of Henry David Thoreau, John Muir, Aldo Leopold, Sigurd Olson, and other wilderness writers. Any categorization attempt is necessarily artificial if, as is the case here, the categories are not previously accepted. These six aspects do summarize aspects of the wilderness idea common to many writings about wilderness. The six aspects are not definitive, but rather serve to highlight ideas of wilderness that have not received as much explicit attention as they might. (It would be possible to develop other categories such as savagery or harmony, but these were folded into the six aspects—in this case into primtiveness and oneness, respectively.) The following discussion expounds and demonstrates these six aspects of the idea of wilderness: humility, oneness, primitiveness, timelessness, solitude, and care.

HUMILITY

> I am lost-absorbed-captivated with the divine and unfathomable loveliness and grandeur of Nature.
>
> (Muir, quoted in Fox, 1980, p. 7)

> As Howard Zahniser put it, man's deepest need for wilderness is as an aid in "forsaking human arrogance and courting humility in a respect for the community and with regard for the environment."
>
> (Nash, 1982, p. 256)

The beauty of the wilderness experience is one of the simple attractions that draws us to the woods and open spaces. Wilderness amazes us with its many forms and colors, its myriad shapes and tones. But it is more than just pretty; the range and abundance of beauty is almost overwhelming. There is something humbling about all this natural beauty and surprise. Feelings of insignificance and lack of superiority are natural, given the lack of control visitors have over the wilderness environment. Some might feel intimidated or afraid by the sheer scope of wilderness and the lack of human-made conveniences. It is a powerful message of wilderness that within it, humans are but a small part of a much larger community of beings. Wilderness is a great leveler, reminding us, perhaps, of our rightful place within the natural world, and engendering an intellectual humility.

ONENESS

> But let children walk with Nature, let them see the beautiful blendings and communions of death and life, their joyous inseparable unity, as taught in woods and meadow, plains and mountains.
>
> (Muir, 1916, p. 71)

> I wish to speak a word for Nature, for absolute freedom and wildness, as contrasted with a freedom and culture merely civil,—to regard man as

> an inhabitant, or a part and parcel of Nature, rather than a member of society.
>
> (Thoreau, 1862)

Going into wilderness can be an overwhelming experience. Not only are there feelings of insignificance and wonder, but initially it is not unusual to feel an 'otherness' to everything that is out there. But as one begins to feel more comfortable in this seemingly foreign environment, this feeling of separation often diminishes. Feelings of harmony, acceptance and comfort arise. Many writers speak of feeling at-ease and at-home within the wilderness. Muir (1916), for instance, wrote:

> To lovers of the wild, these mountains are not hundreds of miles away. Their spiritual power and the gods of the sky make them near, as a circle of friends. They rise as a portion of the hilled walls of the Hollow. You cannot feel yourself out of doors: plain, sky and mountains ray beauty which you feel. You bathe in these spirit-beams, turning round and round, as if warming at a camp-fire. Presently you lose consciousness of your own separate existence: you blend with the landscape, and become part and parcel of nature. (p. 212)

Wilderness allows a unique opportunity to establish or re-establish close relationships with nature. Perhaps there is an instinctual need to feel at ease and on an equal footing with nature. In contrast to a conquering, macho approach to nature, wilderness fosters harmony and immersion within nature. Rather than being separate from nature, a sense of oneness entails feeling an inter-related part of nature; for example, Westra (1994) wrote about kinship with our fellow beings. Similarly, Ittelson (1978) and Sixsmith (1986) highlighted feelings of belonging and home as part of any environmental experience.

PRIMITIVENESS

> You would like to emulate the pioneer explorers, ... you would like independently to raft down the wild Colorado as John Wesley Powell did a century ago. You would like to go it alone in the mountain wilderness as John Muir did.
>
> (Sax, 1980, p. 15)

> I went to the woods because I wanted to live deliberately, to front only the essential facts of life, ... I wanted to live deep and suck out all the marrow of life, to live so sturdily and Spartan-like as to put to route all that was not life ...
>
> (Thoreau, 1854, p. 81-82)

Wilderness, because it has been preserved in its natural state, is close to being the way it was when Europeans came to this country. It is our closest reminder of the state of nature from which we have evolved. In wilderness is a chance to revisit nature as our ancestors would have found it. It is a land of challenge, adventure, and for some, hardship. If the moral character of the American people was forged in the experiences of the frontier, then wilderness provides the opportunity to relive it. A simpler way of life awaits those who leave civilization behind, and set forth into the wilderness. Beyond the constraints and responsibilities of society lies the freedom to be wild, perhaps more in tune with the ancient rhythms of life. Americans have valued both the pioneering spirit and the simple lifestyles of their forbears. Wilderness offers the chance to still feel part of the past, as Olson (1938) commented:

> It is surprising how quickly a man sheds the habiliments of civilization and how soon he feels at home in the wilds. Before many days have passed, he feels that the life he has been living was merely an interruption in a long wilderness existence and that now again he is back at the real business of living. And when we think of the comparatively short time that we have been living and working as we do now, when we recall that many of us are hardly a generation removed from the soil, and that a few scant thousand of years ago our ancestors roamed and hunted the vastness of Europe; it is not strange that the smell of wood smoke and the lure of the primitive is with us yet. (p. 51)

TIMELESSNESS

> My wilderness world has to do with the calling of loons, northern lights and the great silences of a land lying north and northwest of Lake Superior. It is concerned with the simple joys, timelessness, and perspective found in a way of life close to the past.
>
> (Olson, 1972, p. xvii)

> As I gazed every color seemed to deepen and glow as if the progress of the fresh sun-work were visible from hour to hour ... A free man revels in a scene like this and time goes by unmeasured.
>
> (Muir, 1901, p. 228)

Wilderness provides the opportunity to leave behind the frantic pace of modern life, and to experience a far less controlled and perhaps unmeasured pace. Some may find a natural affinity with the ancient rhythms of life, the cycles of the seasons, and the day/night patterns of light, temperature, and activity. Indeed, some may find the stillness and time to stop and contemplate or reflect, an activity otherwise not easily fitted into their lives. Within the stillness of wilderness can be found the opportunity, and the time, to contemplate and reflect. Within wilderness, the demands for action may come more naturally from the organic rhythms of nature. Olson, for example, was convinced that given sufficient time, all visitors to wilderness can experience timelessness, and that as they

> accept the time clock of wilderness, their lives become entirely different. It is one of the great compensations of primitive experience, and when one finally reaches the point where days are governed by daylight and dark, rather than schedules, where one eats if hungry and sleeps when tired, and becomes completely immersed in the ancient rhythms, then one begins to live (1976, p. 28).

Tinsley and Tinsley (1986) also suggested that leisure experiences are to some extent characterized by a decreased awareness of the passage of time.

SOLITUDE

> My runes have come from wilderness, for in its solitude, silence and freedom, I can see more clearly those values and influences that over the long centuries has molded us as a race.
>
> (Olson, 1963, p. 3)

> Only by going alone in silence without baggage, can one truly get into the heart of wilderness.
>
> (Muir, 1954, p. 314)

The association of the concept of wilderness with the notion of solitude is particularly noticeable in the writers of this century. Bob Marshall, who helped to draft the Forest Service roadless area regulations that predated federal legislation, saw wilderness as a sanctuary of solitude and silence. Oelschlaeger (1991) believed that through a life of solitude at Walden Pond, Thoreau achieved a special experience of unity with nature. And Olson (1976) felt that wilderness could only be experienced fully when the contrast of solitude could truly be felt. He wrote that, "silence is one of the most important parts of a wilderness experience: without it the land was nothing more than rocks, trees and water" (p. 41).

The opportunity for solitude is a relatively well accepted component of the idea of wilderness. It is specifically enshrined in the Wilderness Act of 1964, and has received significant research attention. According to Hammitt (1982, p. 482), "Privacy, in its many forms, and freedom of choice are what the wilderness user may really be seeking when referring to solitude." Hammitt and Madden (1989) found that "wilderness solitude is much more complex a psychological concept than being alone or even being alone with others. Wilderness privacy and the many realms of freedom of choice that humans seek in remote natural environments provide a better concept of wilderness solitude than 'being alone'" (p. 299). Hammitt and Madden (1989), in their field test efforts to measure privacy, and thereby solitude in wilderness, found "tranquillity and peacefulness of the remote environment and an environment free of human generated noises to be the two most important privacy items" (p. 296).

CARE

> Without love of the land, conservation lacks meaning or purpose.
>
> (Olson, 1976, p. 125)

Perhaps the greatest impact any wilderness experience can provide is a questioning, extension, or alteration of an ethical stance. The wilderness visit can induce profound changes in people's relationship to nature, and in their value system. Karen Warren (1990), a central figure in the development of ecofeminist thought, wrote of a lived experience that she had in wild country:

> I closed my eyes and began to feel the rock with my hands.... At that moment I was bathed in serenity.... I felt an overwhelming sense of gratitude for what (the rock) offered me—a chance to know myself and the rock differently...to come to know a sense of being in relationship with the natural environment. It felt as if the rock and I were silent conversational partners in a long-standing friendship. I realized then that I had come to care about this cliff which was so different from me.... I felt myself caring for this rock. (pp. 134-135)

Many of the great wilderness writers saw the logical extension of their admiration and enjoyment of wild places to be an ethical stance that prioritized the preservation of wild nature. Indeed, some called for active stances that take responsibility for the welfare of nature. This may have developed from an onus of care or duty. Leopold, for example, wrote of the development of an ecological conscience to guide actions in following the dictates of a land ethic. Out of an intimate relationship with the wilderness environment can develop an actively caring response to nature. As Pigram (1993) wrote, "focusing on the human experiential opportunities inherent in wilderness should enhance respect for the environments which make this experiential diversity and complexity possible" (p. 418).

METHODOLOGY

This study considers applicability of these six aspects of the wilderness experience using the Experience Sampling Method, a relatively new methodology utilized by leisure researchers (Samdahl, 1992, Unger & Kernan, 1983, Graef, Csikszentmihalyi, & Gianinno, 1983). The Experience Sampling Method (ESM) was developed to investigate moment-by-moment experiences of persons in normal settings (Csikszentmihalyi, Larson & Prescott, 1977, Csikszentmihalyi & Csikszentmihalyi, 1988). It consists of asking individuals to carry electronic beepers that signal pre-programmed random points of time at which subjects report or rate their immediate experiences by filling out a brief questionnaire. The general purpose is to "study the subjective experience of persons interacting with natural environments" (Csikszentmihalyi & Larson, 1987). Unlike post-hoc questionnaires and reflective journal entries, the answering of the ESM form is designed not to become an experience in itself. By using random scheduling, the participant has less of an opportunity to anticipate and prepare for the self-report. Little cognitive effort or verbal skill is required to adequately tap and report the immediate conscious experience. The ESM is, therefore, ideally suited to the verbal report of states (feelings, opinions, and events) without the accuracy difficulties typically associated with such self-report (Borrie, 1995; Borrie & Roggenbuck, 1995).

The study entailed sampling at Okefenokee National Wildlife Refuge during the months of October and November, 1994. Canoe trails through the Okefenokee wilderness may be traveled by campers holding permits for trips lasting two to five days. Respondents carried a packet of research materials that was sufficiently waterproof that the packet could sit in the bottom of the canoe easily accessible and the beeper easily heard. Each packet contained a sufficient number of 8 1/2 x 11 inch questionnaires printed on waterproof paper and folded over, two pencils, a plastic backing board on which to write, and the beeper device inside its own plastic bag. The entire package was small in size (6 x 10 inches), brightly colored and individually numbered for identification. The beepers were pre-programmed to sound randomly once in the morning (between 8.00 am and 12.30 pm) and once in the afternoon or early evening (between 12.30 pm and 6.30 pm). Thus, an average group on a three day trip would be beeped five times, since many groups finished their trip around lunch time on the third day. As an initial investigation of the use of experience sampling methods in wilderness this represented a less frequent sampling of experiences than is typically used (8-10 beeps per day are common for urban settings), but seemed more reasonable and less intrusive for the wilderness environment.

Upon hearing the beep, respondents were instructed to turn off the alarm, pull over to a stable location and complete a questionnaire asking them about their thoughts, feelings and experiences at the time the beeper sounded. The survey form took between two and five minutes to complete and aimed to be a 'snap shot' of the moment in time just before the beeper went off. Participants found the task interesting and rewarding and were willing to share their experiences in this way.

RESULTS

On each of 24 sample days (seven weekend days, 16 weekdays), canoeists entering the Okefenokee Wilderness were approach-ed to assist in the study. The main priority was to contact overnight paddlers, but the opportunity to talk with day visitors was also possible. A total of 56 groups were approached, and all but one agreed to participate in the study. (An estimated 80 over-night groups entered Okefenokee Wilderness on these sample days.) After this period of sampling, a small group of visitors were recruited for the study through the mail. These subjects were sent materials (preprogrammed beeper, questionnaires, return envelope) along with their wilderness permit. An additional seven respondents were gained in this manner. (Several groups approached through the mail canceled their trips, misplaced the packet, or refused to participate.) The breakdown of sample days and respondents is shown in Table 1.

Of the 62 respondents who agreed to carry the packet of beeper and questionnaires, all completed at least one questionnaire. Visitors can have trips lasting from part of a day to four and a half days, and were beeped twice daily. Thus, Table 2 shows the breakdown of respondents by the number of questionnaires completed during their visit to Okefenokee Wilderness. As a result, a database of 221 completed questionnaires was collected, from a total of 62 visitor groups.

The six constructs of oneness, humility, primitiveness, timelessness, solitude, and care are an attempt to comprehensively describe the wilderness experience and broaden our investigations of wilderness. In this section we describe and review the reliabilities of the mostly new items, and the scales developed to measure these wilderness constructs.

These items, and the constructs they represent, were developed through discussion with professional colleagues, reflection of the work of wilderness writers, and attempts to capture the fullness of the wilderness experience. Some 100 possible items were drawn together and then distilled down into apparent categories. In some cases, categories were merged; for example, primitiveness includes our original notions of ancestral heritage (particularly of the pioneers), simplicity of life, and savagery. The wording of some items was changed, other items were combined, and other items were discarded entirely. In addition, some items were found to be unsuccessful in a pre-test at Juniper Prairie Wilderness in Florida and were dropped from consideration.

The results of this scale development are shown in Table 3, which list means and standard

TABLE 1

Sampling days and respondent numbers at Okefenokee Wilderness

		Number of visitors		
	Sample days	Overnight visitors	Day visitors	Total visitors
Weekend day	7	13	9	22
Weekday	16	27	6	33
Mail	6	7	-	7
Total	30	47	15	62

TABLE 2

Number of questionnaires completed by visitors

# questionnaires completed / respondent	# of visitors	# questionnaires
9	1	9
only 6	5	30
only 5	11	55
only 4	16	64
only 3	13	39
only 2	8	16
only 1	8	8
Total	62	221

deviations observed (on a 0-9 scale, 0 being low) across all questionnaires. For each scale, items means were similar, with standard deviations around 2.5, suggesting adequate variation of response (e.g., the three oneness items had means between 4.7 and 6.1, which might be compared to the means for the three solitude items of between 5.2 and 6.9). Inter-item correlations were high for each scale, indicating a common underlying construct being tapped by these items. For example, the inter-item correlations for the five primitiveness items ranged between .31 and .63, indicating neither perfect duplication between the items nor a complete lack of co-variation. Cronbach's alpha was used as a measure of the reliability of the items combined into a composite scale, such as oneness. It is a statistic assessing the consistency of the items performance in a scale. Cronbach's alpha measures both homogeneity and internal consistency among the items. Satisfactory levels of alpha were shown for each of the scales of the wilderness experience. Another indication of the goodness of each scale was shown by the decrease in reported alphas should any of the items be removed from an individual scale. Also shown in Table 3 is the fall in variance if any of the items were dropped from the scale (that is, adding items to the scales should increase total scale variance up to the point where the increase in variance does not justify the extra burden upon respondent and analysis).

We can conclude, therefore, that the six composite scales were reliable measures of the six aspects of a wilderness experience, thus providing us with evidence of applicability of the conceptualization of six aspects. It is, however, recommended that the validity of these measures, as well as of the six dimensions themselves, should be further examined. This might be achieved through the further use of quantitative analysis (see Borrie, 1995), or through the use of qualitative methods. The Experience Sampling Method allows the opportunity to examine the dynamics of the wilderness experience. For example, the impact of instructor guidance, particular activities, or special locations can be examined since the research subject is responding at a known time and place. The examination of the intellectual traditions of wilderness should also continue, as we search for answers as to what our relationship with wild nature should be.

DISCUSSION

By returning to the writings of wilderness philosophers such as Henry David Thoreau, John Muir and Sigurd Olson, this project has highlighted aspects of the idea of wilderness not fully encapsulated by the Wilderness Act. The six aspects that have been operationalized in this study can provide further guidance to educators working within the National Wilderness Preservation System. While wilderness programs

TABLE 3

Reliability analysis of six scales of the wilderness experience

Oneness Alpha = 0.83, Variance = 41.3	**Mean**	**SD**	**Inter-item correlation**			
I feel a part of wild nature	4.7	2.6				
I was feeling a special closeness with nature	6.1	2.5	.59			
I was feeling totally immersed in nature	5.6	2.4	.54	.73		

	Item-total correlation	**Variance if deleted**	**Alpha if deleted**
I feel a part of wild nature	.60	20.3	.84
I was feeling a special closeness with nature	.75	19.2	.70
I was feeling totally immersed in nature	.71	20.2	.74

Humility Alpha = 0.77, Variance = 44.3	**Mean**	**SD**	**Inter-item correlation**			
I was in awe of nature's creation	5.9	2.5				
I felt humbled by all of nature around me	5.2	2.7	.59			
I was feeling insignificant in the glory of nature	4.0	2.7	.54	.73		

	Item-total correlation	**Variance if deleted**	**Alpha if deleted**
I was in awe of nature's creation	.53	24.4	.75
I felt humbled by all of nature around me	.57	21.9	.56
I was feeling insignificant in the glory of nature	.70	19.6	.70

Primitiveness Alpha = 0.82, Variance = 96.2	**Mean**	**SD**	**Inter-item correlation**			
I felt like I was living like a pioneer	2.2	2.2				
I felt the simplicity of life on this trip	4.5	2.6	.31			
I felt that life is simple	3.3	2.7	.44	.63		
I felt connected with times lone ago	3.5	2.8	.50	.45	.60	
I was feeling the heartbeat of the earth	3.5	2.8	.41	.47	.45	.60

	Item-total correlation	**Variance if deleted**	**Alpha if deleted**
I felt like I was living like a pioneer	.51	71.7	.81
I felt the simplicity of life on this trip	.60	65.8	.78
I felt that life is simple	.66	62.4	.77
I felt connected with times lone ago	.67	60.5	.76
I was feeling the heartbeat of the earth	.61	61.6	.78

Timelessness Alpha = 0.72, Variance = 26.1	**Mean**	**SD**	**Inter-item correlation**			
I care what time it is	1.3	2.0				
I was worrying about the time	1.1	2.1	.76			
I care what time it is when I eat	1.5	2.2	.28	.37		

TABLE 3

Reliability analysis of six scales of the wilderness experience (Continued)

(Timelessness, cont.)	**Item-total correlation**	**Variance if deleted**	**Alpha if deleted**
I care what time it is	.62	13.1	.53
I was worrying about the time	.68	11.6	.44
I care what time it is when I eat	.34	15.1	.86

Solitude Alpha = 0.74, Variance = 42.8	Mean	SD	Inter-item correlation	
The environment seems free of human-made noises	6.9	2.2		
I feel the tranquillity and peacefulness of this place	5.3	2.8	.53	
I felt the silence of the environment	5.2	2.9	.41	.63

	Item-total correlation	**Variance if deleted**	**Alpha if deleted**
The environment seems free of human-made noises	.52	26.5	.77
I feel the tranquillity and peacefulness of this place	.70	18.2	.56
I felt the silence of the environment	.61	19.1	.68

Care Alpha = 0.67, Variance = 42.8	**Mean**	**SD**	**Inter-item correlation**
I feel I want to care for this place	7.3	2.3	
I want to behave properly towards this place	8.0	1.8	.52

	Item-total correlation	**Variance if deleted**
I feel I want to care for this place	.52	3.2
I want to behave properly towards this place	.52	5.3

can be used for a variety of personal growth-related outcomes (Hendee & Brown, 1988), it is the unique influences of wilderness that can distinguish it from classrooms, therapeutic settings, and other alternative locations. Given the uniqueness of these influences, it would be somewhat utilitarian not to focus some of our attention to the very inspirations of wilderness.

It is tempting as an outdoor educator to focus on the metaphor rather than the lessons that it can teach. Therefore, we should go beyond simply appreciating and using the wilderness environment to highlighting the profound insights that are intrinsic to the wilderness experience. For example; while we must ensure safety in our activities, we should consider shifting our students' attention away from the activity itself, such as learning technical rock climbing skills, onto the feelings of harmony, humility, and relationship with the natural environment. While many outdoor activities can be taught in gymnasiums and sporting facilities, it is the wilderness environment that is not so easily replicated. Many of the lessons of wilderness, such as timelessness, primitiveness, and solitude are more wilderness-dependent than are the activities themselves. We should take care not to sacrifice the unique values of wilderness for less wilderness-dependent outcomes.

The six aspects of the wilderness experience suggested and tested in this study can serve not only as a structure for lessons in the wilderness, but also as a reminder or balance to outdoor educators. The challenge remains as to how to truly integrate objectives such as these into an outdoor program without these philosophies or outcomes becoming supplementalist or secondary to more pressing or adrenaline-driven concerns. Structure, time, and guidance should be given to the interactions with the wilderness environment itself and the unique opportunities it provides. While many will wish the wilderness to be the teacher, outdoor educators must provide equal opportunity for, and reinforcement of, the lessons it can teach. Simply assuming these outcomes will automatically occur is not doing justice to the motivation for setting aside wilderness.

CONCLUSION

Throughout this discussion, various aspects of the wilderness experience have been identified from the writings of influential wilderness philosophers and scholars. The concepts of oneness, humility, primitiveness, timelessness, solitude, and care have been highlighted. While these concepts are not all encompassing of the wilderness idea, and not all are to be directly found within wilderness legislation, they clearly suggest that the wilderness experience is more than a simple recreation visit. This is not to say that all wilderness recreationists will seek or experience these feelings. Rather, the six constructs discussed above provide insight into the meaning and value of wilderness—they represent some of the beliefs that are influential in preserving and protecting wilderness areas.

In structuring our lessons in wilderness, we are beholden to make the most of the opportunities that wilderness provides. One way is to expand our notion of wilderness, and the values it espouses beyond (but including) the policies of the 1964 Wilderness Act. In doing so, we can actively engage our learners in authentic wilderness experiences.

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PERSON-PLACE ENGAGEMENT AMONG RECREATION VISITORS

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BACKGROUND

In the definition of leisure, outdoor recreation in a natural setting may be a leisure experience. Williams, Patterson and Roggenbuckl (1992) said that the outdoor recreation setting is the context for a recreator's experience. While the setting has a physical reality it is also emergent in the experience of each visitor. The context is not simply the setting. The present researcher views the context as the relationship, the interaction between person and place.

Out of this interactive relationship, the perceived setting emerges in the experience of the participant and is, therefore, a phenomenon expressed uniquely in the individual. Self-referential data will further professional understanding of place-facilitated leisure needs operating among visitors.

METHODOLOGY

Q-Methodology was the vehicle of choice to explore person-place interactions among recreation visitors to a rural lake-based park. A Q-Method approach was used because of its effectiveness in illuminating operant subjectivity, in this case subjective response to a rural outdoor recreation setting. The Q sort technique was used to gather data from human subjects. Each subject accomplished a Q sort by rank-ordering a set of 42 statements (Q set) provided by the researcher. The author constructed the Q set out of previously conducted in-depth interviews with visitors to the selected study area (Wilson, 1995). In the interviews, visitors to the study area vocalized subjective accounts of person-place experiences. The task of each subject in the present study was to rank-order the 42 items of the Q set from "most like me" to "most unlike me," forcing a self-referential, platykurtic normal curve for each subject. Responses were factor analyzed using Stricklin's (1990) Q analysis programs for personal computer.

RESULTS

Four centroids were extracted and Varimax rotated to yield four factors (person types) constructed out of analysis of all responses of the subject sample (P set). The author gave these factors descriptive labels interpreted out of the analyzed data. Person types that were analytically constructed are:

- *purposive dawdlers,* who draw energy from direct experience with physical features;
- *time-out escapists,* who draw energy from a social context antithetical to their daily lives;
- *close-encounters escapists,* who draw energy from communing with non-human influences; and
- *place abstractors,* who draw energy, existentially, from a tranquil natural ambiance.

IMPLICATIONS

Characterization of visitor interactions with rural recreation sites using self-referential data can provide essential information to managers and administrators who are stewards of rural park lands. Traditional management practices that base decisions on visitor demographics and activity preferences can result in over development of sites and displacement of recreators for

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whom place is facility. A more ecologic management environment would promote natural features as well as built features in nearby open spaces, thereby supporting depth of human experience in recreation, leisure, learning, and refuge among visitors.

Leaders of groups participating in experiential programs in the outdoors, particularly in backcountry expeditions, can increase group management effectiveness and enhance personal benefit to participants by taking into account the various modes in which individuals engage themselves with the physical setting.

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RESPONSIBLE ENVIRONMENTAL BEHAVIOR: METAPHORIC TRANSFERENCE OF MINIMUM-IMPACT IDEOLOGY

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This abstract represents a thesis research project that studied changes in National Outdoor Leadership School (NOLS) students' attitudes, intentions, and behavior, as they pertain to the environment, resulting from participation in NOLS' Wind River Wilderness course.

It was hypothesized that an increase in these concerns would result from the metaphoric transference of minimum-impact ideology to daily life. Prominent theories from the fields of social psychology and environmental education relating attitudes, intentions, behavior, and other considerations were incorporated into the theoretical framework of the study.

A survey instrument was administered to the students ($N = 288$) immediately before, immediately after, and four to eight months after their course. Students were asked first to report certain background demographic data, then to respond to 15 statements of the New Ecological Paradigm (NEP), measuring attitudes toward the environment in general. Students were then asked to indicate how often they had been practicing each of eight specific behaviors representative of responsible environmental behavior (REB), and how often they intended to in the future. Finally, for each of the eight specific behaviors, students were asked to respond to seven constructs of a theoretical model of REB: belief, locus of control, personal responsibility, knowledge, situational factors, subjective norm, and concern for that norm.

A decidedly pro-environmental distribution was found for behavior and attitudes prior to NOLS: Nearly 70 percent indicated that they followed REB practices "frequently" or more often in their daily lives; over 80 percent "agreed" to some extent with the worldview of the NEP. Statistical analysis revealed that students' behavior (as reported) was significantly more environmentally responsible after NOLS, although intentions toward REB and attitudes as measured by the NEP did not change significantly. It was also revealed that students responded more positively after NOLS to all seven constructs of the theoretical model for REB. Changes in intentions and these constructs, along with demographic variables, proved useful in predicting changes in behavior.

Those associated with outdoor programs have confirmation that incoming students tend to be relatively ecologically-minded to begin with; however, notwithstanding this initial orientation, students can still be expected to experience significant positive changes in certain cognitive domains relating to the environment. These changes tend to occur with regard to specific attitudes and beliefs and appear to have a close link to the expressed intent of the curriculum for the course.

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GROUP DEVELOPMENT AND GROUP DYNAMICS IN OUTDOOR EDUCATION

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This paper presents an update of the research on group development and group dynamics in outdoor education since the 1992 edition of these Proceedings. The research is presented within the six categories of individual and personal dimensions: group process and structure, group functions and tasks, leadership and power, environmental influences, and the impact of the group on the individual. The paper includes a discussion of pertinent research in the fields of social work, communications, and management. Specific recommendations are made for future research in outdoor education focusing on group development and dynamics.

KEYWORDS: *Outdoor education, group development, group dynamics.*

INTRODUCTION

In the first edition of the Coalition for Education in the Outdoors Symposium Proceedings, we presented a discussion and summary of the research that then existed addressing group dynamics and development in the context of outdoor education (McAvoy, Mitten, Steckart, & Stringer, 1992). Much of the research in our field has concentrated on individual and personal growth dimensions of outdoor education processes and experience. But those of us who lead outdoor programs know how important the group dynamics element is in the success or failure of these programs, and we also intuitively know these programs can be powerful incubators of group development. In our 1992 review of the research, we stated that there had been little research on group dynamics and group development in our field, and this dearth has not changed significantly over the past four years. There have been a number of articles, conference sessions, and book chapters in our field on various aspects of groups and our literature is full of references regarding how important the group is to the outdoor education process. But there still has been precious little research to pry open the black box of the outdoor education group and to describe and discover what is really going on there.

The purposes of this paper are to give an update on the status of research in outdoor education that relates to group dynamics and group development, to present some research and practice directions we see in closely allied disciplines (social work, communications and management), and to recommend some research directions we believe are important for the field of outdoor education. Because this paper does not repeat the information contained in our earlier article. The reader is advised to refer to that

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paper for a discussion of the literature found up to 1992, a more in-depth discussion of some of the classic texts and theories that relate to group dynamics and development, and the non-research literature in our field that discusses group processes.

A number of authors give definitions of the key concepts used in this paper, but we have chosen to stay with the definitions by Forsyth that we used in our 1992 paper. Forsyth (1990) defines a *group* as two or more individuals who influence one another through social interaction. *Group dynamics* is the study of the behavior of groups. And *group development* is the pattern of growth and change that occur in groups throughout their lives from formation to dissolution.

There is a great amount of diverse literature, research, and theoretical material on group dynamics and group development. This creates a challenge to anyone trying to organize even the relatively small amount of research in outdoor education into a presentation that is understandable and illustrative. As in the 1992 paper, we have adapted a classification system developed by Weber (1982) and modified it to fit the topics for outdoor/adventure/experiential/wilderness/environmental education. This adaptation resulted in a list of general dimensions or topic areas of research and information. We then used the group literature to generate a list of specific topic areas within each dimension area and went to the literature to see if research was available on those topics in the context of outdoor education. Some of the topic areas and dimensions overlap, and some research articles address more than one topic. We tried to reduce any duplication, so the focus here is on the main studies found in each topic area. In this paper we present the primary dimension areas and the topics in each area, and we present the research we found in outdoor education that has been reported since 1992 in each of those dimension and topic areas. In some cases we also present research from others fields in the dimension areas—research that we believe relates to some of the issues and topics relative to groups in outdoor education. This research may serve as a guide for researchers in our field who want to address these topics in the context of outdoor education.

The general dimension categories we established to present the research are:

1. *Individual and Personal:* How do the personal characteristics individuals bring to groups influence group dynamics and group development?
2. *Group Process and Structure:* How do groups develop and operate, and how do process and structure influence groups?
3. *Group Functions and Tasks:* What is the relationship between functions and tasks in groups? Do groups operate differently according to functions and tasks?
4. *Leadership and Power*: How do leaders and leadership influence group dynamics and development?
5. *Environmental*: How do forces outside the group influence a group's development and dynamics?
6. *Group Impact on the Individual:* What impact does the group have on the individual members of the group?

The first five dimensions are all adaptations of Weber's classification system. We have added the last dimension after seeing an increased amount of discussion in the literature (social work and communications) about the impacts that the group and its processes can have on individual members of the group.

INDIVIDUAL AND PERSONAL DIMENSIONS

The individual and personal dimensions area includes studies that consider how personal characteristics individuals bring to a group influence group dynamics and development. Specific topics in this dimension are personal factors (past experience, family of origin, gender, class, ethnicity, diversity, ability/disability, social skills, age, and coping skills); role choice; and intrapersonal/introspective capabilities of group members.

There has been little research in outdoor education in this dimension category. Ewert (1992) measured self reported levels of group development on a variety of Outward Bound courses according to age and gender. He found no differences according to age and only one difference according to gender (females were more dependent on group leaders).

Anderson (1994) used the experience sampling method, sociograms, and analysis of journals and interviews to study integrated groups on a wilderness trip program. She hypothesized that social inclusion would be enhanced by increasing the outdoor skill levels of persons with disabilities, thereby increasing the social status of these individuals. The results did not uphold this hypothesis. Instead, she found that opportunities for cooperation/ mutual goals and interdependence were the best predictors of social inclusion.

The ecological-systems approach is used with modern group work (Toseland & Rivas, 1995), which involves an integration of concerns among individual, group, and organizational/community collectives and situations. The system of social work is now a basic feature of our society, and group work has an institutional context. There is increased recognition of how influential the larger organizational or community contexts are and how their rewarding, limiting, and reinforcing aspects need to be dealt with in order to facilitate effective helping. This approach relates well to outdoor education groups. Our profession now better understands that we have to "know" our clientele and recognize, in the most positive sense, special populations. Each individual who comes to an outdoor education group brings personal characteristics and life experiences that makes that person unique. These characteristics will probably influence the dynamics and development processes of that group. Thus, in order to be effective helping, for example, women who have been sexually abused, we need to understand more about their experience, including how our cultural norms influence their experience. Likewise, if we work with clients from economically disadvantaged backgrounds, we need to understand their experience and the influence of the larger culture on that experience in order to use our outdoor programs in a positive, helping way (Mitten, 1995b).

GROUP PROCESS AND STRUCTURE

The group process and structure dimension has received some attention in the outdoor education literature, but much of that attention has been on proposed models for practice rather than on research. The research topics included in this dimension are norms, conflict, roles, communication, special groups, problem solving ability, cohesion/non-cohesion, authority/hierarchy structure, processing, group learning and group development stages/cycles. Research in this dimension has often concentrated on documenting the influence outdoor programs have on these elements of group process or, alternatively, that these elements have on group development.

The topics of cohesion/non-cohesion and team building have been the major emphases of the work done in the area variously termed corporate adventure training, experience based training and development, or outdoor management education. Priest and his colleagues at the Corporate Adventure Training Institute have been the primary researchers in this topic area. Please refer to his paper in this *Proceedings* for an extensive summary of their findings. Priest, Attarian, and Schubert (1993) also provide an excellent review of research on the effectiveness of corporate adventure training programs regarding cohesion and team building. Group development is one of the focus points in the model they use to frame their discussion. Another paper by Priest (1995) provides a summary of a series of studies that indicate that corporate adventure programs can be effective means of group development, that team building that occurs within adventure programs can be transferred back to the work environment if conducted with intact groups and accompanied with follow-up, and that certain group methods result in greatest team building. He also warns against over generalization of these findings due to research design flaws that are often inherent to the process of evaluating the impact of these types of programs.

McEvoy (1995) used a randomized group experimental design combined with qualitative research and three-year follow-up interviews to assess the outcomes of an outdoor management education program in one organization. He found that the participants were very positive about the experience; that they learned significant amounts about effective communication, group problem-solving, and teamwork; and that they exhibited higher levels of organizational commitment, organization-based self-esteem, and intentions to apply learning from training following their experience in the program. Qualitative, anecdotal evidence suggest that at least some participants changed their behavior as a result of the experience. Two indicators of organizational outcomes (Total Quality Management implementation and sick leave usage) improved after the training, and the organization receiving recognition for increased task accomplishments and process achievements. The participant reactions to the training failed to deteriorate much over time. The research did not find a significant increase in trust levels among participants. The author attributes this to a problem in measurement of trust in this study, as well as a perhaps unrealistic expectation that a four-day experience can actually improve trust, which is a long-term process.

Wagner and Weigand (1993) studied a group of managers who participated in an outdoor management education program. Using self reporting before and after measures, they found improvements in group communications, team spirit, interpersonal relations, and group effectiveness.

Baldwin, Wagner, and Roland (1991) studied the effects of outdoor challenge training on group and individual outcomes of 358 employees who participated in a one-day outdoor management education program with self report before and after measures. They found self-reported improvements in group effectiveness and individual problem solving. Wagner and Roland (1992) summarized results of 80 one-day outdoor management education programs that served 1200 employees. Self-reporting before and after measures found the training appeared to have had a positive impact on group awareness and group effectiveness.

West (1994) used the case study approach to examine the perspectives and discourse of a group of at-risk adolescent students and their teachers in a junior high school program that incorporated wilderness activities in order to identify the communicative dimensions of team building and socialization. The author identified four categories that contributed to team building and socialization for the participants: identifying as a group, making personal contributions, recognizing the symbiotic nature of the relationships, and acknowledging the temporal aspects of team building and socialization. There were four characteristics of communication that emerged from the data: the presence of cross discussion; the disclosure of personal information; the reflective nature of the topics, as well as the process of communicating; and the use of stories. There were also seven communicative functions identified that contributed to team building and socialization: informing, integrating, regulating, exploring, coaching, acknowledging, and affirming.

Group cohesion is an especially important research topic for the outdoor education field. Group cohesion is the result of all forces acting on members to remain in a group (Festinger, 1950), and cohesive groups generally satisfy the needs that prompted members to join the group (Toseland & Rivas, 1995). Cohesive groups have positive effects on task accomplishment. In a meta-analysis of 16 studies focusing on group cohesion and performances, Evans and Dion (1991) found that cohesive groups performed significantly better than non-cohesive groups. Cohesive groups have also been found to have positive effects on members' satisfaction and personal adjustment. For example, Pepitone and Reichling (1995) found that members of cohesive groups felt more comfortable in engaging in hostile remarks and more secure when confronted with an "insult." In an extensive look at the effects of cohesiveness on members of therapy groups, Yalom (1985) found cohesiveness leads to increased self-esteem, more willingness to listen to others, freer expression of feeling, better reality testing, greater self-confidence, and members' effective use of other members' evaluations in enhancing their own development. These are all important elements of outdoor education groups and deserve more attention in our research.

Group development processes, in particular the sequential stage models, have received attention in the outdoor education literature for a number of years. Kerr and Gass (1987) proposed an application of the five stage model of Garland, Jones and Kolodny (1973) to various settings in adventure education. Ewert and Heywood (1991) and Phipps (1991) have conducted preliminary research on these topics. The sequential stage model of group development proposed by Bales and his associates (1950) laid the foundation for future research on phase models. Since the model was first presented, a large body of researchers have concurred that groups do indeed move through sequential stages or phases as they progress toward a goal (Fisher, 1970; Tuckman, 1965); however, the specific order of these phases has been questioned by a host of social scientists (e.g., Bion, 1961; Poole & Roth, 1989; Schultz, 1958). Research has also shown that some groups do not accomplish their work by progressing gradually through a universal series of stages. Gersick found in her study that work groups progressed in a pattern of what she called "punctuated equilibrium" (1988, p.9) which included alternating inertia, revolution, and activity. She found that the groups' progress was determined more by the members' awareness of time and deadlines than on the amount of work needed to be completed in a specific developmental stage.

Most group development phase researchers do agree that during the initial phase of development members attempt to address issues of inclusion and dependency as they identify behaviors and roles that are acceptable to the group (Bennis & Shepard, 1956; Fisher, 1970). This initial period is often stressful for members as they seek to understand what type of group they are involved with and where they may fit. In the second phase, the dual issues of counterdependence and negativity toward the leader are often addressed. Power and authority issues often lead to conflict (Tuckman, 1965) as individual members compete for leadership (Bormann & Bormann, 1992). Once the roles and norms have become relatively stable, the group enters a third phase that is characterized by increased trust and interdependence (Mann, 1966). This phase often creates an opportunity for group members to discuss the group itself, verbalizing concerns about roles, norms, leadership, or division of labor (Wheelan, 1990). The fourth phase is characterized by an increase in task-directed interactions as the group begins to focus less on itself and more on the task at hand (Tuckman, 1965). Finally, in groups that have a specific termination date, members start focusing on the upcoming termination of the group. This final phase may cause a disruption and a resurgence of conflict (Mills, 1964), although expressions of positive feelings toward the group and individual members may also occur (Tubbs, 1988).

There is a clear need for a situated model of group development as it pertains to outdoor education. Within the past ten years, small group researchers have made numerous pleas for researchers to move beyond the zero-history, laboratory groups that many of the current theories are based on and study real-life groups that exist outside of the university setting (Frey, 1994; Poole, 1990; Sykes, 1990). Many of the previously-studied groups were either explicit decision-making groups or therapy groups. Outdoor education groups usually defy these traditional classification schemes, having elements of both types of groups at different phases in the group's development. Outdoor groups also are often in a situation where there are evident ramifications of group actions and negative group development. The outdoor group often gets immediate feedback from the physical environment regarding these actions. The differences between outdoor education groups, both in types of participants and classification of the group itself, and traditional groups studied warrant more group development research in outdoor education. A better understanding of the outdoor group development process would help leaders and others facilitate the positive group development that research tells us leads to improved group performance and positive feelings among the group members.

GROUP FUNCTIONS AND TASKS

This dimension area concentrates on the influences that group functions and tasks have on group development and dynamics. Does what a group is doing affect how well it works? As with many of the other dimension areas, there has been little research in our field in this area. The research topics in this dimension area include: goals, tasks, action plans, problem solving, relationships, decision making, and outcomes/results.

As discussed in the previous section, outdoor education groups are often a combination of task and therapy/treatment groups. Toseland and Rivas (1995) use two main categories for dividing group work, task groups, and treatment groups. Outdoor education, in a traditional sense, would fit into socialization groups according to these authors, a subsection of treatment groups. The primary purposes of task groups (according to Toseland and Rivas) are meeting client needs, meeting organizational needs, and meeting community needs. Outdoor programs sometimes label their programs as treatment (this category includes groups that have a purpose of support, education, growth, therapy, and socialization). Other outdoor programs are far more task oriented. The category a group ends up in is related to the balance of attention paid to task accomplishment verses the socio-emotional needs of the group members. Both task and socio-emotional needs have to be attended to; the difference is the proportion of energy spent with one or the other. In the outdoor field, the balance may be even more confusing, since the groups are often self-contained living groups spending 24 hours a day together.

Two studies in our field have considered the outcomes of group functions and tasks. Estes (1994) studied Outward Bound (O.B.) participants to determine which elements of an O.B. course best conveyed the principles of O.B. She found that according to the participants, daily living activities with group members and the group expedition (group task and problem) best conveyed the primary principles of an Outward Bound course. McFee (1993) studied college students in a freshman Outward Bound type orientation program to determine the effects of group dynamics on the perception of positive learning experiences. Using an analysis of critical incident responses, McFee found that group development was very important to individual learning. Participation in a group that had progressed into the working phase was significant to increased learning.

There is a trend in the group literature toward a balance of group goals and individual goals (Toseland & Rivas, 1995). Early group work said that individual goals need to be put aside for the group goal(s) and, likewise, that individual goals were not compatible with group work. An important shift in the '90s is the focus given by corporations, as well as the government on empowering task groups. The goal is for these groups to function effectively and to recognize the importance of individual and group performance in the achievement of both individual and group objectives. We are seeing this same trend in outdoor groups. That is why, in part, we see so many workshops at professional conferences on ethics and on emotional safety in outdoor groups. However, we (the authors) believe our profession is behind in this area. As an example, in corporate adventure training programs, our profession for the most part still teaches that group goals are the desired outcome and teamwork means focusing on group goals.

Interestingly, these two concepts—that the larger society has a major influence on individuals' development, and that individual and group goals are not automatically mutually exclusive—have their roots in feminism. Feminist therapists (Lerman & Porter, 1990) have explored the concept of the influence of the larger society, especially as it relates to the development of women, including the oppression of women and people of color. Mitten's writing has addressed the concept that individual and group goals do not have to be mutually exclusive (1995a, 1995c). Individuals and, therefore, groups are much healthier if both individual and group goals can be accomplished. Research into the role that group tasks and functions have in group development and dynamics would help us better understand this dimension.

LEADERSHIP AND POWER

The leadership and power dimension concerns research directed toward how leaders and leadership influence group development and dynamics. This is the area that has generated the most literature in our field related to groups, but little of that literature is research. Instead, much of our leadership literature is best-professional-practice-oriented writing, aimed at developing effective, safe, and ethical leadership approaches to facilitating individual and group development within the context of outdoor education programs. As with many of the other dimension areas, while there is a great deal of material on leadership and power in our field, there is little research that documents or explains the influence of leadership and power dimensions on group development and dynamics. The research topics within this dimension are ethics, leadership emergence, effective leadership, leadership traits, dependence/counter-dependence/interdependence, managing group dynamics, and leadership models. Leadership models, in particular, have generated a number of articles in our field. The reader is advised to refer to the 1992 *Proceedings* paper on groups (McAvoy, et al.) for a discussion of these models.

Some of the leadership models that have been applied to outdoor education have been the task-oriented models of the management literature, such as the Situational Leadership Model. As we discussed in the above section on tasks and functions, perhaps the typical outdoor education group is more a treatment or therapy group rather than a task group. Thus, applying task-oriented leadership models may not be appropriate for most outdoor education groups. Authors in group work and practice (Toseland & Rivas, 1995) have seen a shift in preferred leadership models in recent years. Oppressive, controlling, exploitative models that have limited the individual's interests and autonomy are being replaced by models of facilitative, socio-emotional, and practical task leadership that are better geared to democratic styles and to accomplishment of group purposes. These authors describe leaders as legitimate representatives of the group members, the community, and society who can motivate, inspire, guide, and empower people and, thus, influence constructive attitudinal and behavioral change. Two leadership models developed in our field since 1992 that focus more on the well being of group members rather than the accomplishment of group tasks are Mitten's personal affirming model (Mitten, 1995a) and the Fox and McAvoy ethical leadership model (1995). Research is currently underway to describe the effect the Mitten model has on group development and dynamics.

Irwin and Phipps (1994) developed an assessment tool to measure changes in group dynamics over time in response to leadership styles. Doherty (1995), in the context of a ropes course setting, studied the effects of facilitation styles on group dynamics and group development. Patterns in that data indicated that a teaching/ leadership style that incorporated the use of metaphors led to increased positive changes in the groups; however, follow-up testing showed a significant loss of these effects after 30 days. Meyer and Wenger (1995), in a qualitative research study focused on high school students, found that participation in a ropes course program increased group cohesion and team building. Gains included increased trust, confidence, concentration, and the use of goal setting principles. They also found that the adult facilitators who were present influenced the outcome by modeling appropriate group behaviors, by distributing attention equally among group members, and by their involvement.

ENVIRONMENTAL

The environmental dimension concerns the influence outside forces have on group development and dynamics. The topics in the dimension include the outdoor environment (wilderness, camps, ropes course, etc.) and all of its various forces, program components, territoriality, spatial behavior, environmental stress, time demands, and fear/anxiety. As with the other dimension areas, our field has done little research on how these factors influence group development and dynamics. There is, however, some research on the issues of spatiality, territoriality, and crowding in the recreation resource management literature. Within the outdoor education field, Anderson (1994), in her study of social inclusion between persons with and without disabilities on a wilderness adventure trip, did find that the main predictor of social inclusion within the group was the fact that the group was in a wilderness environment. The participants in her study indicated that two characteristics of a wilderness experience—perspective taking and simplified transactions—contributed to the social inclusion (positive group dynamics) within the group. Priest (see article in these *Proceedings*) has some preliminary study results showing that in corporate training, the results are the same regardless of the environment (indoors or outdoors) where the experience takes place.

Much of the research on how a group deals with its surrounding environment is being reported in the management literature, including research that looks at the dynamics between work teams and their management environment. Ancona (1993) studied 50 consultant and new product teams in five high-technology organizations and found that a) teams develop activities and strategies toward their external environment, and b) that these activities are positively related to group performance. Environments present a set of constraints to which the group must react, they set limits on activity, and groups help "create" their environments. The external environment also plays the role of echo chamber: It amplifies information about the group. Ancona also found that if the group is deemed successful early (by management or other external evaluators), it tends to continue to be deemed as such, and visa versa. Thus, early labeling creates a self-fulfilling prophesy.

In order to be successful, according to Ancona's findings, groups must be in step with both the organizational environment and the external environment. Groups that follow an open model are more successful in dealing with their external environment. That is, groups that are more open to external input, to incorporating new member schema, and to incorporating new members are more successful. Ancona concludes, "Teams are effective to the extent that they engage in the types of permeability that allows them to predict, adapt to, and shape environmental change" (p. 240). The outdoor education field should increase its efforts to conduct research into this important area of the impact the external environment has on group dynamics and group development. Our field often considers the natural environment (wilderness) and the social environment only as interesting backdrops to what we often concentrate on, which is what is happening within the outdoor education group. We may do well to concentrate more of our attention on how these environments are influencing what is happening within the groups with which we work.

GROUP IMPACTS ON THE INDIVIDUAL

Groups—their dynamics and processes—have an impact on the individual members of the group. As practitioners, we often hear individual outdoor education participants remark that the group processes are often the most memorable elements of an outdoor education experience. Our field places a great amount of attention on facilitating a group to develop according to certain expectations we and our organizations have about how and to what extent that development should happen. Does this emphasis we place on group development lessen or, in some cases, negate the value of the development and situation of the individual within the group?

We found no research in our field that addressed this issue directly. Glassman and Kates (1990), in the field of social work, have proposed a humanistic group development model that includes and values the individual within the group. They encourage group facilitators to take care not to manipulate, coerce, or control members. A humanistic approach to leadership during the beginning stage is especially appropriate in support groups, social action groups, and coalitions where the empowerment of members and the mobilization of their collective energy and wisdom are primary goals. However, elements of a humanistic approach, such as respect for the dignity and individuality of each member and belief in each member's potential for growth and development, are essential in all group work efforts.

An area of this research topic of special interest to outdoor education programs is the possibility of the group and the group process of serving as a framework for effecting attitudinal change of individuals within the group. This possibility has relevance if the organization's goal is to change group members' attitudes. As an example, one goal of an adventure program may be to instill and encourage minimum impact camping attitudes and skills in participants. Bormann's Symbolic Convergence Theory is one approach to understanding how group process can affect individual attitudes. In this theory the group establishes norms and roles emerge. The group sees itself as whole. Members share fantasies and rhetorical visions (symbolic convergence) regarding numerous subjects. The rhetorical skill of individual group members (including leaders) to persuade other members is important, as is the use of consciousness raising to influence group members to participate in the "appropriate way." The end result can be a change in beliefs and attitudes regarding certain subjects. This procedure may appear quite manipulative at first glance. However, most outdoor education programs are attempting to change participants' attitudes and beliefs in a number of areas. It thus appears that Bormann is simply trying to explain the process many outdoor organizations have been using for decades.

As Mitten states (1995a), there is the potential on wilderness adventure trips and in other outdoor education contexts to create a society that values the group at the expense of the individual. Leaders must not only understand the process of group development; we must also understand how the individual is affected by the group.

SOME RESEARCH QUESTIONS AND RECOMMENDED DIRECTIONS

We have included many of our recommendations for future research directions in the group dynamics and group development area in our discussions of the individual research dimensions above. The entire area of group development and dynamics in outdoor education is a little-researched area. We recommend that researchers try to pry back the top of the black box that is the group in outdoor education and begin to see what is really going on in this central element of our programs. In addition, we do have some further recommendations for research directions, including:

1. More qualitative research is needed to understand better the components of the outdoor experience, especially the components that have positive or negative influence on group development. We need to know how and why group development happens in outdoor education, rather than just concentrating on whether it happens.
2. What are the influences of an outdoor leader/facilitator on group development? How facilitative does the leader have to be to help create or foster change or development?
3. How effective are different group models (e.g., group support model, confrontation model, relationship centered model, personal growth model)? Do models used in our field fit "standard" group work models used in other fields
4. Researchers need to track the group development that actually takes place in outdoor groups. We need to concentrate research on the process as well as the results in a variety of populations, including clinical populations. As with the components of group development, we need to know how and why change occurs, rather than simply whether it

occurs. We need to identify variables and program components that cause change.

5. We need to compare productivity between low-cohesion (individual centered) groups and high cohesion (group centered) groups.
6. Research is needed on the impact of gender ratios on group success.
7. Is the group development potential of a ropes course equivalent to that of a canoe trip? Equivalent to that of a rock climbing program? Equivalent to that of a whitewater program?
8. There is a need for longitudinal studies that look at the long-term influences of outdoor programs, including the influences of follow-up strategies to reinforce changes that result from these experiences.
9. There is a need for empirical, multi-faceted studies that use multiple measures to determine program impacts on team building, trust, and group problem solving, as well as the long-term impacts these enhanced group dimensions can have on productivity and group outputs.

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A RESEARCH SUMMARY FOR CORPORATE ADVENTURE TRAINING (CAT) AND EXPERIENCE-BASED TRAINING AND DEVELOPMENT (EBTD)

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This paper is a review of research in Corporate Adventure Training (CAT) and Experience-Based Training and Development (EBTD); a summary of a number of research studies in CAT and EBTD conducted through the Corporate Adventure Training Institute and other researchers; and, recommendations for future research in this growing field of outdoor education. The research results indicate corporate adventure training programs can be effective means of team building and other group development outcomes. The author gives a number of recommendations for future research including the need to investigate the program elements that contribute to overall program effectiveness.

KEYWORDS: *Corporate adventure training, experience-based training and development, team building, group development, research recommendations.*

BACKGROUND

Every year American corporations invest billions of dollars in general training and development programs for employees (Lawler, 1988). Millions of these dollars are being spent on Corporate Adventure Training (CAT) and Experience-Based Training and Development (EBTD) programs alone, and the growing numbers of providers and consumers of these programs are expected to increase steadily into the next century (Latteir, 1989). EBTD is the American term for this field in our related professions. It is also known as Outdoor Management Development (OMD) in Britain, as CAT in Canada and Australia, and by additional labels in many more nations around the world. These terms jointly describe a field which uses indoor and outdoor adventure activities to bring beneficial change to organizations (Gass, Goldman, & Priest, 1992). While the corporate client defines the majority, profit and non-profit agencies are also minority customers.

Activities used in EBTD and CAT programs tend to be classified into one of five groups: socialization games, group initiatives, ropes courses, outdoor pursuits, or other adventures (Agran, Garvey, Miner, & Priest, 1993). Socialization games are "ice-breakers" used to deinhibit people and familiarize them with one another. Group initiative tasks can be focused on team tools (one element of teamwork obtained by a simple task) or team tests (multiple elements of teamwork demonstrated in synergy by a complex task). Ropes or challenge courses can be high (belayed well above ground level) or low (spotted at ground level or just above). Outdoor pursuits can be activity-based (conducted anywhere) or setting-based (depended on a special location). Other adventures encompass those simulations or non-traditional exercises distantly associated with our related professions.

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These five classifications and their ten subgroups form the collective treatments that have been studied by researchers. Unfortunately, ambiguity over activity classifications (i.e., where some researchers have conflated ropes courses and group initiatives) has led to confused study outcomes and generalizations.

Benefits accrued from EBTD and CAT programs tend to be classified into one of three types: individual employees, management work units, and parent companies (Priest, Attarian, & Schubert, 1993). Intrapersonal workplace competencies such as enhanced self-confidence, leadership style, risk taking propensity, coping with fear and stress, decision making, and personal inspiration or commitment are examples of individual benefits (Beeby & Rathborn, 1982; Gahin & Chesteen, 1988; Williams, 1980). Interpersonal improvements in goal setting, team building, time management, conflict resolution, group problem solving, collaboration and cooperation are examples of work unit benefits (Creswick & Williams, 1979; Long, 1987; Kadel, 1988). Organizational upgrades to systems, structure, values and ethics, vision and mission, corporate climate, and motivational atmosphere benefit the company and result in the bottom line of bettering productivity, absenteeism and profits (Brathay Hall Trust, 1986; Fleming, 1987). Interactions of these three can further benefit the person, group or culture by increasing empowerment, trust and integrity, effective communication, environmental safety, judgment based on experience, and dealing with change and uncertainty (Mossman, 1982).

Like other outdoor adventure programs, EBTD and CAT tend to be classified into one of four kinds: recreation, education, development, and therapy. Recreational programs change the way people feel, by giving them fun or new energy through entertainment or enjoyment (e.g., a brief program offered as part of a company picnic). Educational programs change the way people think and feel, by providing them with new knowledge, awareness, or understanding of needs, concepts or perspectives (e.g., a short program at a retreat intended to demonstrate the importance of teamwork). Developmental programs change the way people act, think, and feel, by increasing their functional behaviors and offering new ways to conduct themselves (e.g., a general program aimed at building certain teams as part of organizational commitment to teamwork. Therapeutic programs change the way people cope, act, think, and feel, by decreasing dysfunctional behaviors and offering attractive alternatives to managing conflict and difficulty (e.g., a specific program aimed at repairing the negative interactions of particular team members who do not get along).

Unlike other fields, EBTD and CAT have done an extremely poor job of servicing our patrons. For years, we have failed to meet their needs. Corporations in search of therapeutic change for their dysfunctional teams react with reservation when given educational programs. Their oft heard comments are quoted in the popular press: "All this adventure stuff doesn't really work!" (Zemke, 1988). On the other hand, corporations seeking recreational fun and games are frequently irritated by the constant interruptions for developmental discussions. Participants commonly respond with "You're always trying to psychoanalyze us!" (Falvey, 1988). In summary, the CAT and EBTD field has a credibility crisis. This crisis stems from an ongoing failure to match providers' programs with customers' needs.

To add insult to injury, these failures are frequently repeated by well meaning but ill-equipped practitioners who lack the depth of facilitation competence to deliver an appropriate program. This is further compounded by choosing inappropriate activities to meet goals. By way of illustration, consider the overuse of unmodified high ropes or challenge courses (only an individual development tool) as the incorrect industry preference for team building (Priest, 1991). The result is that professional image suffers and good programs simply get lumped in with bad ones.

With all the money that is spent on CAT and EBTD, one would expect some scrutiny and skepticism. However, since these programs were first highlighted in the practitioner literature (Long, 1984; Long, 1987; Galagan, 1987; Gall, 1987), a growing opposition has been mounted against CAT and EBTD. Antagonists have claimed that these programs lack safety and quality control (Garvey, 1989; Miner, 1991), have questionable instructor qualifications (Knecht, 1983; Bank, 1985), and fail to transfer learning to the workplace (Roland, 1985; Zemke, 1988; Falvey, 1988).

To make matters worse, we are unable to argue to the contrary because our evidence is sorely limited. We have very little research, and the little we have holds poor generalizability (Rice, 1979; Roland, 1985; Rice, 1988; Darby, 1989). The remainder of this article summarizes a few of the early studies, conducted in the mid-1980s and 1990s, shares two dozen recent studies from one research center and concludes with a discussion of the future directions and concerns associated with researching CAT and EBTD program efficacy.

PAST RESEARCH

Fletcher (1957, p. 137) noted "726 industrial firms supported Outward Bound" in Britain, by sponsoring employees' and other students' participation in programs. These sponsors reported that 19% of their employees and students had received a promotion as a result of their participation in Outward Bound, and 22% of the employees and students confirmed this claim. Patterson (1969, p. 1) in a qualitative study of programs for industries at Outward Bound Australia found that "55% of sponsors believe that it lasts for life, 38% that it lasts for several years and only 7% that the influence is short lived."

Roland (1981) attempted to measure the impact of adventure training with 58 middle managers from two companies engaged in a three-day outdoor program focusing on team building and group problem solving through a ropes course experience. Three questionnaires measured managerial change in the participants as perceived by themselves, and as perceived by their 68 subordinates and 37 superiors. A fourth questionnaire measured participant learning. Subjects were pre-tested and then post-tested an average of 71 days later. The program took place between pre-test and post-test. Findings indicated that change took place on a number of managerial constructs, including time, planning, suggestions, human relations, trust, goals, group process, supervision, and feedback. Changes were speculated to have resulted from high levels of participant commitment and emotional involvement.

King and Harmon (1981) evaluated an early adventure course for an aerospace company. The purpose was to analyze personal beliefs, behaviors and professional attitudes of employees as a result of participating in the program. Graduates of a two-day in-house course called "Managing Personal Growth" (MPG) attended a four day Outward Bound (OB) course. Interviews were conducted with 33 employees selected from a stratified random sample of MPG graduates who attended the OB course. The researchers concluded that three major benefits were evident: greater self-confidence, increase in morale, and an enhanced a sense of teamwork, friendship and respect for coworkers in the company as a result of the experience. A major finding indicated that those who attended both the MPG and OB courses had lower turnover rates (1.7%) when compared to MPG only turnover rates (6.0%) and company-wide turnover rates (8.4%).

A few years later, Isenhart (1983) administered a 22 item questionnaire to 350 Outward Bound professional development program graduates. Of these, 140 (40%) were returned with findings that revealed that participants felt their personal behavior had changed (76.4%), their work behavior had improved as a result of having participated in their course (78.6%), and they were better able to handle work responsibilities as a result of their participation (88.6%). A more recent survey (Colorado Outward Bound School, 1988) of 274 alumni of the course, contacted to determine the effectiveness of their experience, suggested that a positive impact on professional and personal aspects of the participants was obtained. Responses concluded that the program was valuable in team building (96%), that it gave new insights into leadership (86%), and that participants gained increased closeness to teammates (92%). Personal gains were evidenced in the areas of personal growth (92%), and extension of one's personal limits (86%). The program also was found to have value in building professional relationships (80%) and providing a fuller understanding of self (80%).

Galpin (1989) implemented a study to investigate the effects of a 3-day Outward Bound course for managers on a number of self-perceptions, including self-concept, hardiness, trust of others and involvement in group process. Sixty-four middle managers from a large hospital completed an impact survey and the Personal Views Survey. Data were gathered one month prior to the course, immediately at the start, upon completion, and one month after the course. Analysis of data revealed that participation in the adventure training program had a positive impact on the manager's self-concept and hardiness, with females affected to a greater degree than males, and with older managers affected more than younger ones. Changes were maintained during the follow-up month, with females retaining changes to a greater extent than males.

PRESENT RESEARCH

Baldwin, Wagner, and Roland (1991) conducted an evaluation on the effects of an outdoor challenge training program. The program included a series of group problem-solving initiatives common to most adventure-based training programs. Subjects in this study included 458 civilian employees and 13 supervisors from a military base. Two questionnaires were developed to collect relevant data on a variety of group and individual measures. Findings from the study suggested that outdoor challenge training had a moderate affect on group awareness and effectiveness and individual problem solving, as measured three months after the training. No significant changes were observed in trust or self-concept.

Dutkiewicz and Chase (1991) undertook a study of MBA students to measure empirically the changes that participants undergo following participation in an outdoor-based leadership training experience. A control group of 43 students and an experimental group of 41 students participated in the study, with the experimental group receiving treatment. Results indicated that the MBA students who participated in the outdoor-based training exhibited change in the domains of trust, confidence in peers, group clarity, group cohesiveness, group awareness, and group homogeneity. Lesser changes were noted in the measures of self-assessment and problem solving.

Attarian (1992) examined the effects of adventure training on the risk-taking propensity of corporate managers. A total of 57 managers representing service, manufacturing, and retail distributing companies participated in three, 5-day management training courses administered by Outward Bound. Subjects completed the Choice Dilemmas Questionnaire immediately before participation and 30 days after completion of the training program, with 87.6% returned. Data were subjected to product moment correlations in order to examine the relationships between a manager's age, experience, and risk-taking propensity; and to Analysis of Covariance (pretest as the covariate) to determine outcome differences across gender, management level, company type, and job role. The following were concluded: (a) a manager's age, years of employment, and risk-taking propensity were not highly correlated; (b) male and female managers did not differ in risk-taking propensity; (c) no differences in risk-taking propensity were evident among any management levels; and (d) no significant differences in risk-taking propensity were observed between the service company, manufacturing concern, and retail organization. Overall, subjects showed greater risk-taking propensity after the course through mean score comparisons; however, differences were not statistically significant at the .05 level of probability.

Quinn and Vogl (1992) examined the short term perceived benefits of a 20-hour program for 125 accounting firm employees. Clear improvements in communication with colleagues and conflict management were noted, along with some gain in self-confidence and limited increases in trust, handling stress, and communication ability.

Wagner and Roland (1992) noted that the facilitator of these programs is a pivotal element of program quality. They compared the impact of "hard" versus "soft" skill facilitator competence on outcomes from a one day program for 369 civilian employees of a military agency. During the delivery of programs, facilitators (already holding appropriate hard skills) underwent additional soft skill development. Subjects participating in the latter days of programs had greater gains in group effectiveness than those participating prior to the soft skill upgrading of facilitators.

Miner (1993) conducted a study to compare the effectiveness of an isomorphic model of processing with a generic one on the team development of 50 employees, the entire workforce of a service sector company. Differences were also sought across the independent variables of gender and hierarchical position in the corporation. Although no significant differences were found between the two processing methods, teamwork did improve over the training period. Although small sample sizes prevented inferences among hierarchy levels, some differences in perceptions of teamwork were noted between men and women.

Bronson, Gibson, Kichar, and Priest (1992) compared two intact work groups (with equivalent levels of responsibility or function) cluster sampled from all divisions within an aerospace company. A control group of 11 managers received no treatment, while an experimental group of 17 managers underwent a three-day off-site adventure training program composed mostly of challenge course events and group initiative activities. Both groups completed the short version of the Team Development Inventory (TDI-s) about two months before and two months after the training. Both groups, relatively equivalent before, were significantly different after the program. While the control failed to show change over the study period, the experimental group improved on teamwork items related to group goals, genuine concern, effective listening, decision making, respect for diversity, high standards, recognition of ideas, encouragement for feedback. No improvements were noted for conflict resolution or offering assistance. Manager's comments supported the conclusion that team developments were due to the training program. Researchers recommended further study to examine trends in team development that take place over time and the effectiveness of teamwork transfer in corporate adventure training.

Smith and Priest (in press) determined that in order for team building programs to be effectively utilized back at the office, they should be conducted on intact work units, rather than on random samples of employees, and that company resources should be dedicated to encouraging practice of teamwork. Subjects (53 middle managers of a Canadian commercial distribution firm) were randomly selected and assigned to five groups. These groups rotated through 10 team building activities (trolleys, line-ups, all aboard, trust triads, trust falls, spider web, team triangle, cantilever, nitro crossing and traffic jam) during a one-day program. Subjects were tested three times with the medium version of the Team Development Inventory (TDI-m) during the program. The five groups showed significant improvement on all 25 items of the TDI-m, indicating that the program was effective in building functional teams from random individuals. Although the groups started with different perceptions of teamwork and evolved at different rates, by the end of the day they were relatively equivalent in their levels of teamwork. The varying rates of increase were attributed to the styles of the groups' respective facilitators. Recognizing that the treatment was effective, a 25% sub-sample of 15 subjects was purposely selected for interview, with proportionate representation of 3 subjects from each group (including advocates and skeptics alike). The open ended, half-hour long, tape recorded interviews were held a month later and asked about demographics, program highlights, learning applications, barriers to transfer of learning, and strategies for overcoming the barriers. Fourteen subjects (7 male and 7 female) participated in the interviews. With a range of 5 to 10 years of experience in this company, subjects commonly responded that their learning highlight was that they could accomplish more than initially anticipated. They gained an awareness of cooperation, trust, conflict and communication, noted the importance of keeping everyone involved in a project, and recognized their own role in contributing to a team task. Subjects provided examples of applying new learning at work, but mentioned two principle barriers to transference: lack of participation by all employees in the program and lack of time for practicing new learning. In short, they attempted to practice functional team behaviors, but ran into resistance and opposition from coworkers who had not experienced the same program. In order to overcome these barriers in the future, they suggested involving intact units and providing time or other resources for practicing teamwork.

Priest and Lesperance (1994) conducted a study to examine the role of follow-up procedures in transfer and retention of teamwork. The upper management (vice-president, directors and area managers) from four intact work units (computing systems/data analysis or financial risk management) of a financial institution and a bank participated in an intensive 48 hour residential program (conducted over 3 days). A control group (n = 20), did not receive any training, and three experimental groups (n = 20, 15, and 20) received the program and three different follow-up procedures (no follow-up, self-chosen follow-up, and self-facilitating). Subjects were tested with the short version of the Team Development Inventory (TDI-s) during the program and four times afterwards (2 weeks, 4 weeks, 3 months, and 6 months). All four groups were relatively equivalent in the type of parent company, organizational functions, hierarchical structure, and scores on the TDI-s measured prior to the program. Afterwards, significant increases were evident on all ten items on the TDI-s for all three experimental groups, but not for the control group, indicating that the program brought about positive changes in teamwork. All three experimental groups experienced an immediate and slight drop in teamwork levels (measured two weeks later), which was attributed to the well-known "Post Group Euphoria" effect common to many adventure experiences. In relation to the three different follow-ups, the group not receiving any supportive procedures reverted to baseline control levels by the end of six months. After the same time period, the group involved with self-chosen strategies such as team meetings, refresher training, social gatherings, staff luncheons, and coaching sub-teams, maintained their levels of teamwork. Finally, the self-facilitating group was able to increase the levels of their team behaviors, building on successes and learning from setbacks at work, by the techniques of funnelling and guided reflection. The point about transfer or longevity of learning is driven home by this longitudinal research which suggests that any teamwork improvements from training may be lost after six months without support in the form of follow-up procedures.

Changes in the corporate culture of an Australian public service delivery company were measured by surveying a stratified (gender and management level) random sample of 100 managers from about 500 managers in a company of about 5,000 employees. A final total of 4,516 employees (everyone) participated in a five-day program consisting of group initiative tasks, high ropes courses, and evening lectures. All training was conducted over a one year period (July—June), and no other training schemes were underway at the time of study (Dec. 89—Dec. '91). Eighty three out of 100 managers responded to Section III of the Individual-Team-Organization (ITO) survey and the short form of the Organizational-Health (OH) survey three times (six months before the program, in the middle of the program, and six months after the program). Responses of the 83 managers, from all areas and levels of the organization, indicated that this particular company improved its planning utility, structure flexibility, systems functioning, sensible and supportive roles, positive relationships, excessive delays in workflow, reflection time, and mission and goal clarity during the first year. Concern for getting the job done (rather than accounting for time and cost), alignment, marketplace impact, and profit versus growth decreased over the same period, although decreases were not seen as necessarily detrimental in this case, since the company moved through a desired period of well needed readjustment. During the second year, reflection time decreased, but work enjoyment improved, even though workloads increased over both years as a result of necessary readjustments. The experiential training program was attributed by company executive to have positively resulted in these cultural changes (Priest, 1992).

Motivational climate changes were also measured for the same Australian public service delivery company by surveying 81 out of 100 managers with two tests (six months before and six months after the year of training) of the Motivational Analysis of Organizations-Climate (MAO-C) survey. Overall, the organization became more flexible around rules, more willing to embrace or accept chaos as a valuable catalyst for change, more concerned with the needs or well being of employees and more relaxed around the concept of empowerment of individuals and teams. To some extent the organization became open around the disclosure of information or opinions and employees became comfortable around the idea of interacting with one another. Overall, managers perceived the company to have undergone dramatic changes, resulting in a new and completely different way of motivating its employees. In summary, this company was characterized as an organization motivated by "control-expert influence" and "control-dependency" orientations, before the training program. After the one year of corporate adventure training, in which all employees participated, those descriptors had shifted to "achievement-affiliation" and "achievement-extension" orientations. In other words, the company was transformed from an autocratic bureaucracy where rules reigned supreme to an empowered and team-oriented environment where people were valued. This was both the desire and intent of the company executive when they undertook the program. Although the entire transformation cannot be attributed solely to the adventure training (change may have be driven by environmental factors and financial necessity), the executive were convinced that the program was a powerful and supportive adjunct to their own efforts at making motivational climate changes (Priest, 1992).

Goldman and Priest (1991) examined the transfer of risk taking behaviors from adventure training to the workplace for 27 financial managers of a Canadian credit card corporation who were involved in the one day risk taking exercise of rappelling (the controlled descent of a cliff face by using ropes and rock climbing equipment). The hypothesis being tested was whether a brief, but powerful, adventure training session would alter the work-related perceptions of risk and propensity to take risks for these managers. The results of the study showed that the session did indeed positively affect employees' risk taking behaviors in the business setting. As would be expected with repeated rappelling descents, propensity levels began low, but increased as people became more comfortable with the descents and willing to try more risky ones. Perception of risk began high but decreased as experience was gained. These outcomes indicated that the treatment worked, probably by reducing anxiety and enhancing the desire to take risks. Subjects remarked that their new sense of self-confidence (acquired from rappelling) had been useful in changing their risk taking behaviors at work. Managers remarked that they felt supported by their peers and more willing to risk as a result of their "belay and backup." The terms used during the adventure session were being used in the culture of the organization to describe work situations which were metaphoric representations of their adventure.

A team of researchers (MacRea, Moore, Savage, Soehner,, & Priest, 1993) compared the effect of a standard ropes course experience and an isomorphic one on the risk taking behaviours of already high risk takers (male firefighters). The isomorphic experience was a modification of the standard one to be more "job-like" and an accurate metaphoric representation of real-life fire fighting. For example, the high ropes course experience consisted of 8 elements built within a circle of six 40' tall utility poles (Two Line Bridge, Beam Walk, Criss Cross, Hebe Jebe, Swinging Log, Tension Traverse, Burma Bridge and Multivine). The standard program involved completing these elements in the order listed without structural alteration. The isomorphic program involved a different order with key modifications made to mirror the everyday situation faced by fire fighters: time limits to mimic limited oxygen supply pack, blindfolds representing a smoke filled room, and working closely with a safety buddy. Subjects were randomly assigned to 8 groups of 12. Four control groups (*n* = 37) did not receive a ropes course, two groups (*n* = 20) enjoyed the standard one, and two groups (*n* = 17) experienced the isomorphic modifications. All subjects were pre- and post-tested with the Choice Dilemma Survey, which outlined 10 scenarios associated with risk taking opportunities and asked subjects to disclose the odds (out of a possible 10) that they would consider acceptable before taking each risk. The control groups were not found to change significantly in their risk taking propensity. The standard and isomorphic ropes course groups significantly decreased their acceptable odds, indicating that their risk taking propensity had increased as a result of the ropes course program. However, no experimental groups were found to differ significantly on their post-test means, suggesting that neither type of ropes course experience was more effective than the other in changing risk taking propensity. Perhaps the ropes course was so powerful that the isomorphs were overshadowed, or the particular isomorphs were so weak as to make little difference in the fire fighters' risk taking.

Three years prior to participating in the program studied by Klint and Priest (in press), a major Canadian manufacturer formed several business planning teams called B-PLANs. B-PLANs were charged with the task of involving company employees in the running of the company, shifting the responsibility of the day-to-day operations and decisions from a higher management level to those who were closer to the actual operation and performance of the jobs. A cross-section or horizontal slice of 11 male employees on one B-PLAN participated in a single day program consisting of simple socialization games and typical group initiative tasks. Subjects were observed during the program and debriefs and were twice interviewed at their workplace (four days and four months later). Qualitative data were triangulated (seeking multiple and corroborative opinions about the same topic or issue), member checked (asking subjects to confirm that what was written about them was indeed accurate), and audited (by a second researcher). Subjects started the day as members of a very dysfunctional group, unable to accomplish many simple tasks, which grew into a group who felt that could handle any problem thrown at them. They moved from a starting point of not being able to organize themselves into lineups to a finishing point of being able to identify their own levels of challenge and successfully move everyone over "the wall" with concern for one another. By the end of the day, they were truly working together with a feeling of pride, and this continued on the job for up to four months. The single day of training was perceived by the subjects to be a strong metaphor for their efforts in formulating a business plan for the company. As a result of their brief but educational experience, the group realized better teamwork, improved interactions, increased trust, effective communication, and became willing to share in the roles and responsibilities of solving problems in small groups at work.

Priest (1995) found that using clients to belay one another in rock climbing develops trust between partners better than employing facilitators or technicians for this role (which may reduce partnership trust). An American manufacturing company was interested in developing a new partnership arrangement for workers by pairing them up to share responsibilities on assembly lines. A total of 192 workers (involved in parallel line functions of a four shift manufacturing process) were arranged into eight groups of 24 employees containing three randomly assigned pairs of workers from each of the shifts. All eight groups participated in a one day program of rock climbing, where two groups were belayed by facilitators, two groups were belayed by technicians, two groups were belayed by clients (their partners), and the remaining two groups acted as controls. The Interpersonal Trust Inventory-partner version (ITI-p) was given four times: one month before treatment, one week before, one week after, and three months later. To account for possible pretest effects, one group from the two groups in each of the four treatments completed an additional ITI-p instrument at the start and finish of the treatment. No pre-test effects or differences were found between groups with the same belayer type, therefore these two groups were combined into one for analysis. For overall trust and four of its five subscales, means for the client (self) belay groups rose significantly after the program and remained elevated three months later. However, means for the facilitator and technician belay groups dropped significantly after the program and remained lowered three months later. Obviously, having clients belay one another enhanced trust between partners, while employing others to belay diminished trust. No parallel patterns were found for believability. Apparently, these subjects perceived their partners to behave genuinely, regardless of belayer type used.

Priest (in press) found that ropes courses and group initiatives develop different trust subscales by different means. A Canadian entertainment company was interested in changing the view employees held toward the corporation, since recent events had created the potential for some angry and distrustful feelings between the organization and its membership. Five single day sessions (once a week with the same facilitators) of either group initiatives (nitro crossing, nuclear reactor, acid river, etc.) or high and low ropes course elements (multivine, criss cross, swinging log, etc.) were designed to restore trust within the corporate whole. The entire company work force (156 employees) was randomly assigned into three groups of 52. One group was a control, another received group initiatives only, and the last participated in high and low ropes only. The Interpersonal Trust Inventory-organizational version (ITI-o) was administered five times: one month before the program began, at the program start, middle, and end, and two months after the program finished. Both group initiatives and ropes courses were effective in improving overall trustworthiness toward the organization, and neither was found to be more effective than the other. Parallel increases were noted for believability, confidentiality and dependability sub-scales. However, the ropes course appeared to diminish acceptance of others' ideas, while group initiatives built acceptance. This may be due to the shared responsibility of problem solving in group initiative versus the possible avoidance of advice from others while individually engaged with the ropes course. Furthermore, the ropes course appeared to enhance encouragement of others' efforts, while group initiatives didn't influence encouragement. This may be due to the tendency of groups to offer support either from their empathy of having tried the ropes course or from their sympathy in imagining what it is like to attempt in front of others. Program providers interested in creating gains in trust toward an organization can apply either group initiatives, ropes courses or a combination of approaches to the need. If gains in accepting new ideas are preferred, then a design heavy in group initiatives is called for. On the other hand, if gains in encouraging effort are desired, then a design heavy in ropes courses is recommended.

In response to half a dozen fatal heart attacks in males over the age of 40 while on high ropes courses, Priest and Montelpare (1995) were able to predict (64% explained variance) the highest heart rates attained by middle aged males on one high ropes course, from their age, height, weight, body girths, the time it takes them to walk a mile and their heart rate after walking that mile. Eight groups of 12 subjects from a Canadian financial corporation engaged in one hour of physical measurement (basal heart rate, blood pressure, height, weight, body girths, cholesterol, maximum number of push-up, and the Rockport walking test). A three-hour high ropes course session with 10 elements (two line bridge, beam walk, criss cross, heeby jeeby swinging log, tension traverse, burma bridge, multivine, pamper platform and pamper pole) followed. Subjects' heart rates on the ropes course were electronically monitored by a detector band placed around the chest and telemetered to a recording wrist watch. The highest heart rates attained ranged from 126 to 197, with an average of 167.1 beats per minute. Sixty-eight subjects (36 male, 32 female) completed all aspects of the study; however, a predictive formula was achieved only for males. This equation, included six variables (entered in five regression steps), with a combined correlation coefficient of $R = 0.80$. The researchers believed that this approach should not take the place of medical screening procedures. Sedentary, middle-aged people and persons of any age with coronary risk factors (prior history or risk factors such as smoking, obesity, high blood pressure, sedentary lifestyle, etc.) are advised to have a physical examination if they intend to begin any exercise routine more vigorous than walking. However, this procedure can be an inexpensive and simple intermediary step to identifying possible problems prior to sending every participant for a maximum exercise or stress test.

FUTURE RESEARCH DIRECTIONS AND CONCERNS

In the past, most evidence supporting the efficacy of CAT and EBTD was testimonial and anecdotal description (Keslake & Radcliff, 1980). Recent research has established that such programs *can* be effective, but business authorities question the quality of many programs. Future studies must investigate the program elements that contribute to overall effectiveness. Given the breadth of benefits, scope of activities, and depth of program foci, these variations will be difficult to control. One recommendation for constancy is that programs should involve selecting a single construct (e.g., teamwork, the most common training and development goal), while varying other elements of the program such as length, facilitation, location, design, content, assessment, follow-up, etc. These projects ought to consider transfer of learning by being longitudinal, thus examining the maintenance as well as acquisition of benefits over time.

Several concerns exist when studying CAT or EBTD programs (Priest, Attarian, & Schubert, 1993). First, credible programs operate under the ethic of challenge by choice, which means subjects will always be voluntary (and possibly predisposed to change). The consequential lack of cynics and critics may limit the study's application. Second, an effective program is used with intact work units, so sampling cannot be random (random assignment or selection limits program quality). The best one can hope for is quasi-experimentation.

Third, having small groups of eight to twelve people, typical of CAT or EBTD programs, means that variable distributions will likely be abnormal or discrete and require nonparametric procedures (distribution-free tests), which are generally less well accepted than parametric statistics. Fourth, this concern of small sample sizes cannot be overcome by combining several groups with the exact same adventure, because effective programs customize content to best meet the clients needs. If the program gets modified to suit the research, then the program suffers; if the reverse is true, then the research suffers.

Fifth, obtaining clean control groups (those not engaged in a program) is extremely difficult, because the experimental groups (those involved with the adventure) can often "contaminate" the purity of the controls by sharing experiences outside the study. Since the best controls are selected from the same situation as the experimentals, one can expect them to interact at work and thus change the way they respond to measurement methods. Sixth, the phenomena studied in adventure programs are primarily human qualities and are not easily measured in a quantitative manner. Since few valid and reliable instruments exist, the use of qualitative methods to measure qualities appears more logical.

Seventh, some programs and their clients do not want to be studied, in case someone should discover that they are ineffective in some way and spending lots of money for nothing. Eighth, research and evaluation can interfere with running a smooth program by interrupting learning processes, by preventing full participation, and by costing additional time or money (Cacioppe & Adamson, 1988). Few ethical research studies on CAT and EBTD programs can be made totally unobtrusive.

In addition to these eight concerns, this author and other researchers are worried about the amount of poor research that gets communicated to an ignorant public, now hungry for any results that help them prove their points. Without a sound grounding in research theory, philosophy, or practice, they accept everything as gospel, without critically examining its merit and application. Many consumers of research begin to distrust most studies. Some producers of research become reluctant to share their findings for fear of misinterpretation or exaggeration. A few academics try to widen the gap away from practitioners as a means to protect the sanctity of their work. In an effort to partially bridge this gap, the following are four recommended ethical guidelines for conducting research on CAT and EBTD programs.

First, ethical research operates with informed consent under a "challenge by choice" philosophy, just like ethical adventure programs. In almost all cases (except where deception or concealment are both justified and necessary), subjects must have the risks and responsibilities of the study explained to them verbally or in writing. Subjects should provide signed consent (verbal agreement to participate is acceptable in general public surveys, but not in experiments where subjects are assigned to treatment or control groups). Warning and informing prior to signature, ought to include the sponsoring institution, project title, researcher's names and contacts, a description of the study, inherent risks, benefits expected and safeguards employed.

Second, researchers should protect subjects' rights. The two rights of "only answering question they wish to" and "being able to withdraw from the study at any time without penalty" must be clearly communicated to all subjects. A copy of the results should be given to those subjects who request one. Guarantee of confidentiality must be made by stating that individual responses will not be named, but instead will be reported in aggregate or averaged forms. Real names will be changed to protect subjects and the names of organizations (such as provider and consumer names, even with their permission) will be withheld for reasons of anonymity. These rights are important in all human subject research, but are similarly critical in CAT and EBTD programs where some subjects may be concerned about potential career limiting situations.

Third, researchers should resist the temptation to over-generalize. Generalization is frequently delimited to a particular program or training treatment and limited by flaws in the study. All research or evaluation is flawed to some extent, and people who fail to acknowledge the obvious flaws in their work are claiming credibility of research and evaluation which simply does not exist and may even be willingly misrepresenting the authenticity of their studies.

Fourth, the purpose of a peer review or refereeing process, prior to publication in scholarly or academic journals, is to draw attention to these possible flaws and to either improve marginal studies or prevent poor studies from getting published. Therefore, researchers would be unwise to release research or evaluation in prepublication manuscript form to anyone other than producers of research and evaluation. The latter are assumed to have the abilities to discern flaws and limitations, while novice consumers of research and evaluation (such as practitioners or the media) may not have such competence. To prevent this, researchers have the ethical obligation to correctly interpret their work in order to make it understandable for the layperson. Lastly, if a study fails to find significant change, differences or relationships, this should never be interpreted as the fact that none ever existed.

They simply were not detected in this particular instance. Hopefully, these recommendations can help guide the future of research on CAT and EBTD programs.

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A Research Update of Adventure Therapy (1992-1995): Challenge Activities and Ropes Courses, Wilderness Expeditions, and Residential Camping Programs

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In 1992 a review of research in adventure therapy offered a perspective that utilized work in psychotherapy as a lens to view the current state of the field. From that review, several recommendations were made to gain respect within the field of traditional mental health. This update examines the recommendations made in 1992 and updates them utilizing research that has taken place in adventure therapy and borrowing liberally from suggestions made for enhancing the field of psychotherapy. The article makes the following points. First, the field of adventure therapy must create a *collective document* that addresses its accomplishments and effectiveness. Technology allows world wide web connections that can facilitate the process of communication at levels we were unaware of in 1992. Second, the *clinically significant events* of adventure therapy need to be examined through a massive survey of consumers of our service in order to achieve credibility with mental health and those who hold the purse strings. If we do not do so, we risk benefiting our potential consumers, those who may *not* be able to access adventure therapy as a viable approach to treatment. Finally, the time is ripe with possibilities for researchers and several avenues are explored for shaping the future of the field.

Introduction

In 1992 a request was made to overview the field of adventure therapy with regard to its research. In that study models and recommendations from psychotherapy research were used as lenses to view the current state of the field. The problems with language was highlighted to the extent that numerous words were used to describe what might generically be called "adventure therapy." Difficulties with trying to research a field as diverse as adventure therapy were also noted and suggestions were made as to how we might benefit more from correctional work than from pre-post testing of such variables as self concept. The issue of clinical significance was introduced as it related to moving clients from level of pathology to levels of health, regardless of the level of statistical significance achieved. Such a goal was thought to be more noble. Finally, much of the discussion that ensued from the presentation of the 1992 study highlighted the need for the field to be clearer as to *what* was happening when we took folks on 'adventures' as therapy.

In this update of the overview (Gillis, 1992) on the therapeutic uses of adventure programming, three major points are covered. The initial part of this article examines recommendations made at the Coalition for Education in the Outdoors Research Symposium in 1992. Each recommendation is followed by an update on progress toward fulfilling the recommendation. To offer some analysis of the 1992 recommendations a download of documents from ERIC,

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PsychLit and Dissertations Abstracts (via Dialog) from 1992-1995 was utilized and compared with a similar download of articles from 1980-1992. Second, in keeping with the 1992 theme of standing on other researcher's shoulders, this review utilized findings from a recent psychotherapy research critique by Martin Seligman (Seligman, 1995). There, he examined the merits of a *Consumer Reports* (1995) survey on the effectiveness of mental health services. Seligman's ideas about the validity of efficacy studies and effectiveness studies are very relevant to a path adventure therapy might consider. Finally it would be difficult to resist the opportunity to chart potential research avenues and recommendations that might clarify the territory we call adventure therapy. This task may help illuminate our path through the larger field of mental health and beckon others to follow.

NEED FOR A META-ANALYSIS

> *Someone needs to conduct a meta-analysis on therapeutic aspect of adventure-challenge-outdoor-wilderness that includes the criteria of clinical significance along with traditional methods of effect size.*

Dana Cason's thesis provided meta-analysis support for the efficacy of adventure *programming* with adolescents (reported in (Cason & Gillis, 1993). She found a summary effect size[1] of .314 from 43 accessible studies. Interpreted, this figure indicates that the average adolescent who participated in an adventure program was better off than 62.2% of adolescents who did not participate. No big surprise here, some adventure programming is better than none; now there's a number to go with this knowledge.

Other findings of this initial meta-analysis for adventure therapy are listed below.

- Twenty-six percent of all outcome measurements were self-reported self-concept scales. Their combined data support the assertion that adventure activities have a positive effect on self-concept. We still do not know how long the positive changes last. Most likely there is an initial regression to pretest measured levels before clients return to the original posttest change levels as has been found elsewhere (Davis, Berman, & Berman, 1994)
- Effect sizes from studies using outcome measurements other than self concept differed significantly.
- The average effect size for self-report evaluations was lower than the average effect size for evaluations done by others. Maybe "others" see changes of which the adolescents are not aware.
- As research designs approached the ideal, effect sizes were smaller. The less rigorous research, mostly ERIC documents, appeared to show the greatest gains.
- The length of programs ranged from 36 to 5400 hours (ten months), with a median length of 54 hours (three weeks). Forty-one percent (41%) of the outcome measurements were from Outward Bound expedition programs; shorter programs represented 27%, and longer programs represented 32% of the sample.
- Age and diagnosis of the participants found younger participants demonstrating larger effect sizes. Adjudicated youth were the predominant population studied though no significant differences were found between adjudicated, "normal," or emotionally disturbed and physically challenged adolescent participants.

Cason was unable to obtain copies of several dissertation studies that might have been considered for her meta-analysis. As a result, she could not specifically address what the impact of adventure *therapy* was separate from adventure *programming*. In addition, what is the validity of the .314 effect size. How might the figure be increased or decreased if we had pre-post data from studies that were not published or contained negative data? Since most of the research cited was contained in dissertations, is this research the "best" the field has to offer? We think not. There is not the priority being placed on research by practitioners that allows for the level of sharing needed to make a meta-analysis in adventure therapy meaningful at this point.

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[1] The effect sizes were determined by subtracting each study's post test scores from the pretest scores and dividing by the post test standard deviation. Summary effect sizes were means of all the effect sizes for a particular variable.

The central research question, mentioned in the 1992 article, still asks "What treatment, by whom, is most effective for this population with that specific problem, under which set of circumstances?" (Paul, cited in Kazdin, 1991, p. 786). Right now we can say that adventure programming in general is effective with adolescents. We need to be able to know more specifically what *type* of adventure therapy is most effective with which populations and problems. A new recommendation is that a comprehensive meta-analysis is needed that can address the efficacy of adventure therapy across populations, problems, and settings.

As Gass (1993) observed, three adventure therapy areas exist. They include adventure based therapy, wilderness therapy and long term residential camping. These types of programming are characterized by *where* adventure therapy is taking *place*, for what *length* of time, and the type of *programming* being utilized. Using *only* the abstracts available from PsychLit and ERIC CD-ROM downloads plus a search of Dissertation Abstracts International (via Dialog), available research was roughly placed under the following headings.

- The activity-based group work, or what Gass calls "adventure based therapy," centers on team games and problem-solving initiatives, either alone or in combination with low and high challenge ropes course activities. This approach takes place near a facility and rarely in "remote" settings. Table 1 indicates some representative research in this area.
- *Wilderness therapy* appears to come in both short and long term expedition formats. The *short term* formats are often associated with Outward Bound's model. These programs utilize a 7-31 day expedition format that has elements of teaching and practicing wilderness skills. The setting is often remote, as the name wilderness implies. Table 2 shows some representative research in this area.
- *Longer wilderness expeditions* (60 days or longer) appear to differ from the Outward Bound model but have not been studied with as much clarity to be able to clearly highlight their differences here. From observation, it would appear that many of these programs focus on survival skills. Table 3 indicates some representative research in this area.
- The long-term *residential camping* programs appear to be flourishing in the southeast and mid Atlantic regions of the United States through programs designed by Eckerd Family Wilderness and Three Springs, Inc. It would appear from the downloaded literature that published efficacy studies have not been as abundant as the reported growth of these programs, as shown in Table 4.

Results from the studies represented in the tables indicate that outcomes are still mixed. It remains difficult to tell just *what* is taking place in these various settings that falls under the label of adventure therapy. Also it was difficult to definitively categorize studies exclusively into the three various tables. Indeed most programs are a mixture of an activity base that highlights ropes course activities and some form of an expedition.

To answer the question of which approach works best with which population, researchers must make better attempts to clearly describe activities they are assessing, for how long, and with what population. A good place to start such definitions is within the titles and abstracts that will initially appear to researchers over accessible databases.

The downloaded abstracts did not clearly indicate the population or problem in many

TABLE 1

Research on Activity-Based Group Work

AUTHOR	POPULATION	DEPENDENT VARIABLE(S)	OUTCOME
Blanchard (1993)	Adolescent Psychiatric Inpatients	Coopersmith Self-Esteem Inventory California Psychological Inventory, Child Behavior Checklist Teacher Report Form	Increase in self-esteem and improvements in interpersonal behavior
Hickmon (1993)	Married couples from the Protestant religion	Waring Intimacy Questionnaire, Self-Rating of Intimacy Scale, Intimacy Change Scale and an open-ended questionnaire	Adventure-based marriage enrichment programs enhance marital intimacy.
Hughes (1993)	Chemically dependent adult males in treatment	Sensation-Seeking Scale, Situational Confidence Questionnaire	Increased self-efficacy levels especially with high sensation seekers.
Jacobson (1992)	Families seeking family therapy	Family Crisis Oriented Personal Evaluation Scale, Hudson Index of Family Relations, Program Questionnaires	Positive results and positive feedback from families.
Ulrich (1992)	Students in an alternative high school	Unable to ascertain from abstract	No significant change in the experimental group of students who participated in the two day ropes course experience.
Witman (1992)	Adolescents in psychiatric treatment	Interviews with participants	Adventure program participation both complements and supplements psychiatric treatment in changing attitudes, affect, and behavior of adolescents in psychiatric treatment.

cases nor did they clearly state the outcome of the research. Trying to determine the difference between the use of therapeutic challenge activities, wilderness activities, and expeditions is difficult at best. Clearer and "cleaner" standardization of nomenclature will allow us to more clearly refine our ability to discuss benefits of different approaches to therapeutic adventure programming.

In 1992 the group present at the research symposium held at Bradford Woods took a pledge to make specific methodology available to those who asked. This pledge was an attempt to help researchers understand and delineate the type of programming being done in the field. While it is difficult to assess how well researchers have done at upholding this pledge, a recommendation from this update is that a common set of information be specified in abstracts. Such information should include, but not be limited to: specifics about the type of programming (activity based, expedition based, camping based), demographics of the population (including their age, gender, and problem or diagnosis), the measurement instruments employed, and a clearly written outcome statement.

TABLE 2

Representative Research on Short-Term Wilderness Therapy

AUTHOR	POPULATION	DEPENDENT VARIABLE(S)	OUTCOME
Aubrey & MacLeod (1994)	Single mothers on welfare	Client and facilitator reports.	Suggests that feelings of power and achievement emerge in the camp setting.
Bandoroff & Scherer (1994)	Families with troubled adolescents in therapy.	Adolescent self-esteem, adolescent behavior, Family Wheel Evaluation	Positive outcomes for participants. Parent ratings of problem behavior improved.
Duindam (1993)	Adolescents with emotional and behavioral problems.	Journal writing and other measures difficult to ascertain from abstract	Positive results
Kessell (1994)	Women with depression, PTSD, anxiety and adjustment disorders	Unable to ascertain from abstract	This experience empowered women to make changes in lifestyle and attitudes.
Kleiber (1993)	Middle school students at-risk of failing.	The Social and Personal Responsibility Scale, The Self-Perception Profile for Adolescents, and The Problem Solving Inventory	Positive results for attitudes on responsibility, close friendships, and physical appearance and lesser on athletic competence and global self-worth.
Minor & Elrod (1994)	12-17 year old juvenile probationers	Recidivism	No significant difference between those who participated in experimental program which included a short-term outdoor adventure.
Parker (1992)	Adolescents with behavioral and adjustment difficulties	Locus of Control, Self-esteem, Behavioral improvements	Results provide little support for the use of adventure interventions to enhance traditional counseling approaches.
Pawlowski, Holme, & Hafner (1993)	Hospitalized patients with schizophrenia or bipolar disorder	Brief Symptom Inventory, hospital re-admission rates	Both groups benefited from the program.
Pitstick (1995)	Youth at risk in the Federal Job Corps program	Journals, Interviews, Field Observations, and Staff Assessments	Statistically no significance, but qualitative study indicated the program had a positive effect.
Pommier (1994)	Adolescent status offenders	Harter's Self-Perception Profile for Adolescents and Self-Perception Profile for Parents, Eyberg Child Behavior Inventory, Olsen's Family Adaptability and Cohesion Evaluation Scale-II	Program was effective in reducing problem behavior and problem behavior intensity, increasing family adaptability and cohesiveness and increasing adolescent self-perception.

TABLE 3

Research on Longer Wilderness Expeditions

AUTHOR	POPULATION	DEPENDENT VARIABLES	OUTCOME
Davis Berman & Berman (1994)	Emotionally disturbed adolescents	Self-efficacy, behavioral symptoms, locus of control	Regression to pretest levels at 4 months, 1 year, and 2 years after the original program.
McNutt (1994)	15-18 year olds who are in the care of the social services department	Recidivism Rates	Program is effective in altering attitudes and behaviors.
Sale (1992)	Delinquent adolescents	Washington Sentence Completion Test, and the Piers Harris Self-Concept Scale	Those participating in the intensive program had more gains in ego development than those in the long term program. No differences in gain in self-concept were found between the two groups.

TABLE 4

Research on Efficacy of Residential Camping Programs

AUTHOR	POPULATION	DEPENDENT VARIABLES	OUTCOME
Caram (1994)	At-risk Elementary School Students	On-site observation, document examination, open-ended interviews	Perceptions of educators, parents, and community related the existence and longevity of the program to the leadership of the executive director.
Larsen (1992)	Schizophrenics	Unable to ascertain from abstract	Schizophrenic subjects were found to have a greater preference for outdoor environments with high degrees of enclosure and complexity than were non-schizophrenic subjects.

AGREEMENT ON A COMMON TERM FOR ADVENTURE THERAPY

Instead of spending time agreeing on a particular term or phrase to describe what we do let's put energy into writing specific how-to training manuals that can be shared, and tested using quantitative and qualitative methods with research designs focused on multiple measures and predictor models. The models need to be tested across numerous homogeneous diagnostic populations and in multicultural settings to better understand their strengths (when indicated) and limitations (when contraindicated).

The issue of "a particular term or phrase" was originally addressed in the 1992 paper. It is still a critical question for adventure therapy. The 1992 paper stated "We should not be held up in settling on one name or label" (p. 36). We have changed our minds. We now advocate the use of a generic term "adventure therapy." A definition of adventure therapy is now needed that is inclusive of the types of programming and settings described above.

A global view of adventure therapy as one aspect of the larger field of experiential therapies is included in the following definition points:

- An active, experiential approach to group (and family) psychotherapy or counseling; although it is acknowledged that much work goes on in one-to-one conversations between therapist and client while involved in an activity such as a ropes course element;
- utilizing an activity base, (cooperative group games, ropes courses, outdoor pursuits or wilderness expeditions);
- employing real and or perceived physical and psychological risk distress/eustress as a significant clinically significant agent to bring about desired change;
- making meaning(s) (through insights that are expressed verbally, nonverbally, or unconsciously that lead to behavioral change) from both verbal and nonverbal introductions prior to (e.g., frontloadings) and discussions following (e.g., debriefings) the activity experience;
- punctuating isomorphic connection(s) (how the structure of the activity matches the resolution of the problem) that significantly contribute to the transfer of lessons learned into changed behavior.

This definition agrees with portions of Ringer's (1994a) view of adventure therapy as

> a generic term that refers to a class of change-oriented group-based experiential learning processes that occur in the context of a contractual, empowering and empathic professional relationship. The rationale of adventure therapy explicitly or implicitly focuses on the personality and behaviour of clients, the strategic application of adventure activities to engender personal change in clients, or both. Durable change in multiple aspects of clients' lives is sought. The processes involved are idiosyncratic and determined by a complex set of interrelated factors such as the nature of the clients, the adventure therapists theoretical orientation, the activities carried out and the goals of the program in which the adventure therapy occurs. (p. 8-9).

Specific points of agreement with Ringer are that the approach is group based and that adventure therapy attempts to bring about durable change. The proposed definition attempts to address Ringer's concept of 'idiosyncratic processes' as being related to the three settings and approaches apparent in the literature. The proposed definition differs from Ringer's in that the role of risk is explicitly stated. It is this element of risk and the positive or negative stress produced through resolution that defines adventure therapy from other forms of experiential therapies.

TRAINING GUIDELINES RESULTING FROM RESEARCH

> *As one or more models emerge that show some research promise, training issues can be addressed to better understand how to teach traditionally trained psychotherapists to do whatever it is we do and how to ethically train experientially based outdoor leaders and paraprofessionals to work in our powerful manner.*

The "by *whom*" question is difficult to assess since training manuals do not yet exist nor has any research been found that assesses adventure therapist competency in our field. The acceptable level and kind of education for adventure therapist versus the amount of adventure therapy experience remains a tension in discussing training and competence. Numerous questions remain without much but opinion to answer them; that is, NO research is known to have been done that assesses adventure therapist' competence. Attempts have been made to delineate some of the factors necessary in understanding the role of the adventure therapist. Berman, (1995), Gass, (1993), Ringer (1994a, 1994b) Gerstein (1992), and Burg (1994) have all made significant contributions in identifying leadership competencies, valuable group skills in adventure therapy, and how family and group adventure therapy differ. But questions remain...:

- What level of education and how much experience or competence does it take to call oneself an adventure therapist?
- How many research studies must one cite and how much theory should one know to be able to practice competently and responsibly?
- Who judges the minimally acceptable level of skills needed to conduct adventure therapy work with specific psychiatric diagnoses and populations?
- Do you just need to be able to sell yourself to enough parents who want to let you work with their children, or find a job working with clinical or 'challenged' populations to be called an adventure therapist?
- Is being employed by a program claiming to be adventure-based or reporting to (Gillis, 1995) practice wilderness therapy enough to call oneself an adventure therapist?
- Are those facilitators who have credentials or graduate level mental health degrees more effective than those who do not have such training?

The Therapeutic Adventure Professional Group (TAPG) of the Association of Experiential Education (AEE) has adopted a set of ethical guidelines that attempts to answer professional practice questions (Gass, 1993). However, the jury has yet to be called to answer such questions. Who is likely to serve on that jury: Peers who review one another's programs and provide feedback and guidance, peers from traditional mental health agencies; state or federal legislators who are not as familiar with the standard practices but feel the heat from concerned constituents wanting to protect their children (Gillis, 1995)? Do inquiring adventure therapy minds wish to know?

DISSEMINATION AND SHARING OF RESEARCH RESULTS

> *Our writing needs to be more easily available to one another through an agreement to share resources and reference one another. Perhaps a common accessible database of theoretical information will allow dissertations to move beyond traditional pre-post, treatment-control, outcome designs and offer more information on how and with whom, what(ever) we do, works.*

The Internet has been a major setting for much discussion in the adventure therapy field since the 1992 symposium. Listservers for the AEE and more recently for adventure therapy have allowed a forum to discuss pressing issues. The World Wide Web now allows for information to be put out in a format many can access. As authors we commit to putting our database on-line in ways that can be accessible to readers of this article. Readers are urged to contact these authors at http://advthe.gac.peachnet.edu/index.html. By sharing the information we have gathered we hope the field can benefit by expanding the use of others' work and avoiding the replication of similar studies that do not move the field forward.

A language analysis of many of the conversations that have taken place in listserver and e-mail discussions is an area of new ground for research in adventure therapy. How we talk about what we do is an important piece of information about who we are. A brief language analysis of the titles and abstracts that exist in the field may also be an enlightening avenue of research to investigate what words we are using to talk about what we are doing.

A sample of articles was downloaded of all existing article summaries found from CD-ROM and DIALOG searches of *ERIC, PsychLit,* and *Dissertation Abstracts International* (via Dialog). Search criteria were consistent in that psychotherapy and counseling were linked together and crossed with adventure, ropes course, wilderness, Outward Bound and outdoor.

Having recently acquired the latest version of Endnote bibliographical software, the usefulness of the "find" function to search the language we are using in an attempt to ascertain which concepts are found in material written since the 1992 paper seemed like one way to examine the state of the field. Table 5 depicts frequency data that compares 1992-1995 with 1981-1991 data. Percentages are used as a method of simple comparison.

The majority of articles in the last three years appear to be concerned with adventure or wilderness therapy with at-risk male adolescents that focuses on risk and fun. Work appears to be increasing for women, for at-risk populations and focusing on risk. Studies for families, couples, corrections, and ropes courses would appear to be declining from using our 'word count' methodology. It would also appear that 1/3 of the 99 articles are concerned with research. Perhaps a meta-analysis could test out the hypotheses raised by this initial word search.

We still know little of how adventure or wilderness therapy works with the specific diagnostic populations. We appear to repeat much of what has been done previously without exploring new territory. Hopefully the need for a meta-analysis of adventure therapy offerings is made even greater by the analysis mentioned above.

SHARE OUR RESEARCH WITH THERAPISTS

> *Focus on sharing what we do with traditional therapists in traditional psychotherapy jqurnals and at the traditional therapists' regional and national conferences.*

This is a very difficult recommendation to evaluate. One can scan the journals to access the number of adventure therapy articles appearing in the downloaded journals different from the flagship ones (*Journal of Experiential Education* and *Therapeutic Recreation Journal).* In addition, scanning programs from regional, national, and international conferences related to psychotherapy is another way to access a number of presentations taking place outside of the traditional adventure therapy venues. While we engage in this practice in an informal way, we did not do so for this article.

Perhaps a new direction that the field of adventure therapy can adopt is to use the nomenclature of the larger mental health field in describing psychotherapy populations and psychotherapy methodology. Such behavior should allow adventure therapy to gain credibility among mental health practitioners. In fact, we've found that describing the work done with games, initiatives, low and high ropes courses and expeditions as "activity based group psychotherapy" is much more palatable to traditional mental health practitioners than speaking of some 'exotic' adventure in trees or in the wilderness. In the spirit of psychodrama and gestalt therapy, we have talked with our mental health colleagues about group exercises that work well with populations in need of concrete, physical activities that match the group's issues. We find the traditional mental health practitioner interested in some new 'tricks for their bag"

TABLE 5

Comparison of Yields of Bibliographic Searches

TERM SEARCHED	THEN 1980-1991 *N*=86	Percentage THEN	NOW 1992-1995 *N*=99	Percentage NOW
Adventure Therapy	5	6%	22	22%
Wilderness Therapy	8	9%	20	20%
Therapeutic Camping	9	10%	1	1%
Men or boys or males	76	88%	84	85%
Adolescent	33	38%	26	26%
Women or girls or females	12	14%	24	24%
Adult	10	12%	24	24%
Families	20	23%	11	11%
Couples	4	5%	2	2%
Psychiatric	35	41%	41	41%
At-risk	7	8%	20	20%
Adjudicated or court or probation or corrections	10	12%	5	5%
Substance Abuse	4	5%	1	1%
Research or empirical	32	37%	30	30%
Training	7	8%	10	10%
Qualitative or observation	10	12%	10	10%
Practice	6	7%	9	9%
Adventure	40	47%	56	57%
Wilderness	29	34%	31	31%
Outward Bound	9	10%	9	9%
Ropes course	12	14%	5	5%
Risk	11	13%	28	28%
Fun	10	12%	15	15%
Challenge	12	14%	11	11%
Communication	7	8%	9	9%
Trust	8	9%	7	7%
Cooperation	4	5%	6	6%
Self concept	7	8%	2	2%

and interested in our source of activities. Such a conversation then leads us to talk more of traditional adventure therapy work without the initial turn off by mental health that what we do is too risky and too dangerous. Perhaps more writing in mental health journals using *their* language to describe our work can lead to greater acceptance and usage of our powerful techniques.

CONSUMER PERCEPTIONS OF ADVENTURE THERAPY

Enough of this talk about ways *we* researchers and practitioners can interact better or how we can impact those who deliver mental health services. What about our consuming public. What might they say about the field of adventure therapy. Have they been asked? Anyone want to take that bet? Psychotherapist researchers did not think to ask; it took a consumers magazine to poll its readers. What can we learn from such a study?

Martin Seligman's (Seligman, 1995) lead article in the December 1995 *American Psychologist* focuses on the *effectiveness* of psychotherapy. Seligman's article responds to a recent *Consumer's Report* (1995) survey on the effectiveness of psychotherapy. His main points are that much of what is practiced in psychotherapy is not subjected to empirical analysis for a number of valid reasons. However, the lack of efficacy studies that meet rigorous statistical and academic criteria can lead to what Seligman calls the "inertness assumption." An *inert* treatment is inactive or inoperative as seen by mental health third party providers including the growing data-based world of managed care. Much of what he says about inert treatments applies to adventure therapy. Almost weekly our phone rings with the caller asking for research on the efficacy of adventure therapy (we think they mean effectiveness, but are looking for *the* study that shows adventure therapy is *better* than traditional psychotherapy). While we can point to the paper written for the 1992 symposium, or the Gass (1993) excellent edited work *Adventure Therapy*, or to Cason & Gillis' (1993) meta-analysis, most of the good work being done is hidden in dissertations and theses that never find their way into referred journals. The field of adventure therapy suffers and risks becoming inert. The field also suffers when one collects such documents and notes conflicting results regarding efficacy. Perhaps, as researchers, we are chasing an illusive dream in trying to be empirical and focus on efficacy with a field that should focus more on asking our clientele if we have been effective.

Seligman recommends combining the best of efficacy methodology and effectiveness surveys as done by *Consumer Reports* editors. He advocates a *prospective* survey where a large sample is given an assessment battery composed of some well-normed questionnaires, detailed behavioral information as well as global improvement information. Seligman suggests the use of outside evaluators blind to the purpose of survey in order to encourage multiple perspectives of the information gathered. The major advantage of the *Consumer Report* approach is that it can assess *how* and *to whom* treatment is delivered and how effective the treatment is. Such a direction is desirable for the field of adventure therapy. We need to gather our resources (databases) and survey those who have been through the variety of experiences we label as adventure therapy. We need to ask some simple questions such as "What do you remember (if anything) about your experience?" "How helpful has that experience been for you?" Such simple questions, if we were to all ask them of our clients and pool the responses might enlighten us, our colleagues in mental health and those who control the purse strings of third party reimbursement. Do we have any other choice? Do we risk becoming inert? Do we deprive those who will benefit most from our services just because we have not done the work needed to make our case known? We think not!

SUMMARY

For this examination of what's been written on adventure therapy in the last four years we wish to make the following summary points. First, the field of adventure therapy has everything to gain from putting together results of our work into a collective document that addresses our accomplishments and effectiveness. Let's utilize technology and the web connection to communicate with one another more efficiently Finding some common ground for reporting our information can only lead to greater credibility. Second, by examining clinically significant events in adventure therapy programs that are/were deemed to be of importance *by the consumer* and by communicating in language that is understandable to mental health, adventure therapy can achieve greater credibility with the more traditional field of mental health and those who hold the purse strings and benefit our potential consumers who may then be able to access adventure therapy as a viable approach to treatment. Finally, this is a time ripe with possibilities for researchers. Studies of efficacy need to continue. More useful perhaps are the effectiveness studies from past consumers or, better yet, we need to find funding for the prospective study that Seligman recommends. Thus the following research pathways are brought to the forefront for the interested student or researcher:

- A comprehensive meta-analysis is needed that can address the efficacy of adventure therapy across populations, problems, and settings. We know very little of how our work stacks up collectively.
- A survey is needed to highlight simiiarities and differences in activity based work, expedition work, and residential camping work that falls under the rubric of adventure therapy. We, as a field, are not committed to evaluation or research; we operate as if someone else will do it. It is *we* who must do the work. It is we who must value evaluation of our work and be willing to share what we collect.
- A common set of information needs to be specified in abstracts of our work that is published and made available to the public through on-line services.. Such information should include, but not be limited to: specifics about the type of programming (activity based, expedition based, camping based), demographics of the population (including their age, gender, and problem or diagnosis), the measurement instruments employed, and a clearly stated outcome statement.
- Numerous questions need to be explored about competence of leaders in adventure therapy and how such competence is obtained and recognized. We cannot continue to fight among ourselves for what makes one competent; we need to define clinically relevant criteria for the adventure therapist and evaluate their validity.
- A retrospective and *prospective* survey is needed in adventure therapy where a large sample is given an assessment battery composed of some well-normed questionnaires, detailed behavioral information as well as global improvement information, then followed and questioned about how effective their exposure to adventure therapy has been. We need to look backwards and forwards and then publish the information we receive from our clients. This recommendation hinges on our need to value what our customers find useful about the work we do. We need not bow to the gods of empiricism as much as we need to know if we're doing good work and how we can make it better.

Such recommendations can help the field of adventure therapy gain more credibility with mental health professionals and thus become more available to more clients who can benefit from our services. We cannot wait for others to conduct and publish such work—we must take responsibility for communicating our results. You, the reader, the established researcher, the graduate student looking for direction, the practitioner looking for answers—*you* need to take responsibility for communicating with all of us *what* you're doing and *how well* it's working. Otherwise we risk becoming even more inert and perhaps even dormant. Just think of all the clients who will suffer due to our inaction. Just think of how we will benefit from knowing more about what we do. Researchers of adventure therapy UNITE!

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INTEGRATING OUTDOOR LEADERSHIP EDUCATION INTO THE ACADEMIC SETTING

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Educating outdoor leaders has typically occurred through extending fieldwork for those students who have the time and money. This approach has been effective for private outdoor organizations such as Outward Bound and the National Outdoor Leadership School but not as successful for academic institutions who wish to combine outdoor leadership training within standardized park and recreation college curricula.

The Wilderness Education Association (WEA) is a non-profit organization that introduces and promotes wilderness education and outdoor leadership within mainstream academic institutions. Unfortunately, with only a few exceptions, the majority of university-based WEA outdoor leadership programs have been offered more along the lines of extra-curricular opportunities, outside of the academic structure of the program.

To integrate outdoor leadership education effectively within university academic programs, innovative curricula need to be developed that combine field and classroom work. The goal must be to enable students to understand and assimilate the knowledge base within the classroom and to be able to apply and show judgment and competence in the field.

Since 1991, Northern Arizona University's (NAU) Parks and Recreation Management Program has been offering basic outdoor leadership courses as an affiliate of WEA. While the leadership course has been successful at NAU, there are several problems and limitations. The first problem is that the basic course does *not* lead to national certification through WEA for NAU's students. Second, the course has been offered each year only during the summer session, which has resulted in limited accessibility to park and recreation majors. And third, the course has been so restricted in size (current capacity is 12 students) that interested students have been turned away on a regular basis.

NAU has developed an integrated approach to outdoor leadership education, as an affiliate of WEA, through the use of two semesters of sequential coursework. The objectives of the NAU outdoor leadership program are as follows:

1) To train outdoor leaders over the course of an academic year through a combination of class time and intensive, applied field practice.
2) To provide outdoor leadership instruction that leads to WEA national certification for NAU's outdoor leadership students. The intention is to have the students develop their knowledge base and leadership skills over the course of an entire academic year so that by the end of the year, they are independently functioning outdoor leaders.

NAU is implementing the academic year curriculum during spring/fall, 1996. Questions to consider regarding the approach are:

1) Does the sequential course process allow for enough time in the field; and
2) Does the classroom material transfer to field application without additional in-the-field classes?

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INTERACTIVE BEHAVIORS BETWEEN STUDENTS AND INSTRUCTORS IN THE OUTDOORS

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Research investigating the instructional process has been conducted in many settings but is still a young science (Rink, 1985). The relationships between variables that affect the teaching-learning process and student achievement have been studied in contemporary educational research. Few, if any, studies have focused on the interactive behaviors of instructors and students in the outdoor environment. Investigation of this type may provide insight to how we, as professionals, can maximize effective teaching of skills and knowledge. Duncan and Biddle (1974) developed a model to categorize the areas observed in pedagogy, which provides a useful framework for discussion of relationships between variables in the teaching-learning process. These variables are:

1. Presage variables: characteristics of teachers that may be examined for their effects on the teaching process (e.g., formative experiences, personality).
2. Context variables: conditions to which the teacher must adjust (e.g., characteristics of the environment, attitudes of students, subject matter, skill level of students, objectives).
3. Process variables: concerns the actual activities of the classroom teaching—what teachers and students do (e.g., time on task, student response to the teacher, teacher behavior such as feedback).
4. Product variables: concern the outcomes of teaching or the changes that come about in students as a result of their involvement in class activities with teachers and other students.

Flanders developed a system for observation of student-teacher interaction patterns. The Flanders Interaction Analysis System (1965) was used throughout the 1970s in process-to-process educational research to determine direct and indirect influence of teachers on students. Cheffers (1972) felt there were three limitations with FIAS for the study of physical education: 1) FIAS was concerned only with verbal interactions and did not include nonverbal communication; 2) Flanders viewed the teacher as the sole teaching agent in a classroom; and 3) the Flanders system only allowed for coding class structure when the entire class functioned as a unit. Non verbal interactions, other teaching agents, class structure and elaboration of student responses designed to describe physical activity settings are incorporated in the Cheffers Adaptation of the Flanders Interaction Analysis System (CAFIAS) (1972). Cheffers system seems to be appropriate for observation in outdoor settings because of the many similarities in variables, objectives and methods between outdoor instructors and physical education teachers.

Some overall conclusions that have been drawn from the process-process research concerning the learning environment created by teachers as it relates to student achievement are: 1) time on task or student involvement (conceptually or motorically) is critical to achievement; 2) working at an appropriate level of difficulty raises achievement; 3) strong management skills are an important condition for teacher effectiveness and include the ability to know what is going on and to target behavior appropriately, the ability to give specific feedback, and the ability to handle several things at

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one time; and 4) direct instruction leads to achievement.

METHOD

Three case studies were conducted in which instructors were videotaped at different times during the first week of a 35 day outdoor leadership course. Data were analyzed using CAFIAS by coding both verbal and nonverbal interactions. The dominant behavior was recorded every three seconds, and the tallies were then transferred to a matrix. A variety of interpretations were made from the matrices. The following behaviors were analyzed in this study: total instructor-student interactions across six lessons; total instructor contributions; total student contributions; the amount of confusion or silence; instructor responses to student behavior in both direct and indirect ways; the amount of time instructors spent in expanding student ideas; the amount of time spent in constant behavior versus transitional behaviors and student responses to instructors.

RESULTS

Many interesting observations were made that provided feedback for the instructors. The behaviors of all three instructors were considered to be those of skilled teachers, especially in the area of task behaviors, positive feedback, and content orientation. There were variances in the amount of time spent in the expansion of student ideas and in times of silence or confusion. These are all factors that positively affect student achievement.

DISCUSSION

This study provides a base from which other, more thorough investigations can be made. The system of observation provided detail about the teaching process in an outdoor setting, which could be a useful research or training tool. The method could be easily used for student leader training, challenge course instructors, and with various student populations. Additional research would allow outdoor investigators to focus on teaching to show the effectiveness of their abilities in a unique learning environment. There are several behaviors that instructors can use to enhance the learning experience (Rink, 1985). While not the focus of this study, they may provide some guidance for outdoor instructors and leaders in order to improve their effectiveness. First, it is important to set a tone or to provide parameters of acceptable behavior. Consistent reinforcement of unacceptable performance is also important. Maintenance of a leadership role, knowledge and understanding of students and effective use of time (little dead time) are other factors. A neutral climate tends to be most effective in terms of the emotional climate created for student success. Finally, students need to be held accountable for their efforts and need to be kept on task.

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"KIND OF IN THE MIDDLE": THE GENDERED MEANINGS OF THE OUTDOORS FOR WOMEN STUDENTS

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The purpose of this study was to examine the links between past, present, and future involvement for females and perceptions about whether the outdoors was perceived as a gendered environment. Data were collected using five focus group interviews. Several aspects of grounded theory emerged from this study including aspects of exposure to outdoor opportunities as a child, involvement in the outdoors as a result of and resistance to a gendered society, and contradictions between idealized attitudes and the realities of women's involvement in the outdoors.

KEYWORDS: *Gender, outdoors, women, participation, girls, resistance, environment*

INTRODUCTION

Despite gains by women in society, many gendered contradictions about the outdoors exist regarding whether women should claim the outdoors as a place to nurture their physical, emotional, and spiritual identities. Those issues were expressed by this woman of white heritage who has become more involved in the outdoors in recent years:

> Most of the outdoor activities I do, I do with another guy. Or my mom. I don't have any female friends that want to do those things. I think of myself as kind of in the middle. I'm not a tomboy that's out there with all the guys doing that stuff, but yet, I'm not the little girl who won't sit in the rain at the Hootie concert. You know, I'm kind of in the middle.

Historically women have been in the middle. They have been invisible in outdoor pursuits or inaccurately depicted mainly because of the incompatibility between traditional perceptions of female roles and girls' and women's desire to be involved (Henderson & Bialeschki, 1995). For example, we have seldom heard the history about how some middle and upper class white women at the turn of the century lived two lives as explorers and as gentle women (Kaufman, 1986; LaBastille, 1980; Lynch, 1987). Until recently, women have remained mostly invisible, with the outdoors seen as a male domain unless females were involved as helpmates. Women have traditionally made few demands for outdoor recreation, but many have been involved quietly for a number of years.

The changes brought about by the contemporary women's movement of the past thirty years have resulted in a new visibility about women in the outdoors as well as in other areas of leisure involvement. Many individuals like to think that the outdoors is no longer a male do-

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main. Yet, we know little about how young women of today perceive themselves as females in the outdoors or how their cultural identities might define their experiences. We also do not know the meanings that many females associate with the outdoors related to the changing roles and status of women in society.

The purpose of this study was to examine whether gendered meanings exist for females regarding outdoor recreation. For this study, the definition of outdoor recreation included all freely chosen activities that occur in a natural and/or remote outdoor environment. The definition further included a continuum of opportunities that ranges from walks in a community park to wilderness expeditions. These pursuits included informal gatherings in the outdoors with friends and family to involvement through structured organizations. Females may participate in all women, co-ed, and/or family group involvements. In addition, outdoor activities may be for women of all ages.

According to Roberts and Bialeschki (1995), most of the research on women in the outdoors until now has concerned five primary topics: leadership/guiding, gender, effects on women, constraints/barriers, and all women groups. Research about gender and the outdoors has largely focused on gender differences (e.g., Henderson & Bialeschki, 1987; Jordan, 1992; Knapp, 1995; Mitten, 1986) with some conceptual studies that have examined what being female means (e.g., Bialeschki & Henderson, 1993; Henderson & Bialeschki, 1995; Holzwarth, 1993; Mitten, 1992).

The value of this current study is twofold. First, we empirically explored the potential gendered meanings of female involvement in the outdoors that often has been examined intuitively rather than empirically. Second, the respondents in this study represented a variety of involvements in the outdoors ranging from females who loved the outdoors to those who said they absolutely did not enjoy spending time in the outdoors. We wanted to understand meanings related to the links between past, present, and future involvement for females and perceptions about whether the outdoors was perceived as a gendered environment.

BACKGROUND LITERATURE

Quantitative statistics provide evidence about the evolving participation patterns of women in the outdoors. For example, in the 1990's all aspects of outdoor recreation participation are expected to rise faster for females than males. Hunting is the only activity that has less female participation than males although popular current literature suggests that more women are becoming hunters as well (Begley, 1995). The 1995 Human Powered Outdoor Recreation State of the Industry Report (Widdekind, 1995) showed statistics indicating that 6% of the female population in the US backpacks, 35% bicycle, 7% canoe, 22% hike, 4% Nordic ski, 2% do rock climbing, and 80% walk for pleasure. Further, this recent research along with other studies, suggested that the most significant determinant of involvement is whether or not participation in outdoor recreation occurs with the family as a child. About two-thirds of those who recreate outdoors were introduced to their favorite outdoor activity before the age of 17, and half of those before the age of eight (Widdekind, 1995).

These statistics prove the increasing value of the outdoors for women, but they tell us little about the experience that women have in the outdoors. Past literature offers some insight about the positive effects of outdoor involvement on women (e.g., Cole, Erdman, & Rothblum, 1994; Henderson & Bialeschki, 1986; Miranda & Yerkes, 1982). Research data as well as testimonials, describe the social rewards, empowerment, health benefits, therapeutic outcomes, stress management, freedom, and sense of community that develops as a result of the outdoors. These outcomes probably are not different for men, although sometimes women may experience them in a different way (Henderson, 1992).

Similarly, a large body of literature has developed around the understanding of constraints related to outdoor pursuits (e.g., Bialeschki & Henderson, 1993; Roberts & Drogin, 1993;

Warren, 1985). A constraint is anything that inhibits people's ability to participate in activities, to take advantage of opportunities, or to achieve a desired level of satisfaction. Different constraints have different impacts upon groups of women. Examples of constraints discussed are: an ethic of care often influenced by family responsibilities, gender expectations related to definitions of femininity and masculinity in society, lack of skills and opportunities, and physical and psychological fears for safety. Most of these intrapersonal, interpersonal, and structural fears relate to some aspect of being female in relation to the outdoors.

Although a growing literature base about women's involvement in the outdoors has emerged in the past ten years, an area where understanding is lacking relates to sophisticated analyses of gender, not as sex differences, but as the social meanings of being female in a changing society (Henderson, 1994). Gender refers to cultural connections associated with one's biological sex. Thus, when biological sex is determined at birth as female or male, cultural expectations are associated immediately with the child. Further, gender is an ongoing process rather than an inborn biological trait. The meaning of gender is constructed by society and each of us is socialized into that construction. Gender scholarship addresses the complexity of expectations, roles, and behavior associated with being male as well as being female.

Conducting research with gender as the focus, however, requires that we acknowledge the meaning of being female as a fluctuating, not a fixed state. Being female has varied historically and contextually. Assuming that all females experience outdoor recreation in the same way is risky. One's biological sex alone does not determine behavior, rather it is the way that an individual interprets his or her gender that is important (Henderson, 1994). Race, age, education, cultural background, and other characteristics affect each female's experience in a way that cannot be generalized to all other females. Using gender as a central focus in examining the experiences of females along with other aspects of identity such as race can give us insights into understanding deeper meanings about the outdoors.

METHODS

An interpretive paradigm was the basis for this research study. Symbolic interactionism provided the framework for collecting data. According to Blumer (1969), symbolic interactionism assumes that human beings are conscious, feeling, thinking, and reflective subjects. People impute meanings about what is happening around them and how they are interacting with others. Specifically, symbolic interactionism was used to explore the relationships that young women had, are currently having, and expect to have with the outdoors.

Data were collected using group interviews, popularly referred to as focus groups (Henderson, 1991). The values of this method include its socially oriented procedure, allowances for the moderator to probe, low cost, speedy results, and the opportunity to use a fairly large sample in smaller group units (Krueger, 1988). We collected data during September 1995 from five focus groups composed of a total of 36 women who had varying experiences in their involvement with the outdoors. Each focus group ranging in size from 6-8 people met for 75 minutes and was facilitated by two leaders. A sample of the questions asked is found in Table 1. The focus groups were audiotaped and transcribed.

In addition to a set of semi-structured focus group questions, the participants also completed a short questionnaire that asked their attitudes about the outdoors as well as participation and demographic information. We used the quantitative data primarily to describe the sample. A convenience sample was used to try to get a broad range of responses from female students at a large southern research university. The qualitative data were the basis for the data analysis.

The 36 female students were recruited from four classes taught by leisure studies faculty. Recreation majors were the majority of one class, but the other three were non-recreation

TABLE 1

Focus Group Questions Guide

- Tell us a little about your involvement in the outdoors
- Is your involvement in outdoor activities too much, too little, or just right? Explain.
- When you were a child, did you participate in any kind of organized outdoor experience like attending a camp or going school camping? Describe that experience or why you might not have had that experience.
- What do other family members do in the outdoors? Are they active in the outdoors?
- How did other people influence your attitude toward and involvement in the outdoors?
- How does whether you were a "tomboy" or not relate to your involvement in the outdoors?
- What prevents you from enjoying the outdoors in all the ways that you might like?
- Is your outdoor involvement different because you are female than if you had been male?
- What do you hope your future involvement in the outdoors will be?
- What other issues or ideas has this discussion raised that might be of help to us in trying to understand the involvement of women in the outdoors?

major populations. In recruiting participants, we encouraged individuals who were not experienced in the outdoors to participate in the focus groups as well as individuals who were interested. All participants signed informed consents and received a small monetary stipend for their involvement in the interview. The sample consisted of 5 African-American students, 2 Asian-American students, and 29 women of white heritage. All the students were between the ages of 19-25 with 30 individuals being 20 or 21 years old. Ten students grew up in a large city, 10 in a medium city, 13 in a small town, and two on farms. Thirty-one had attended camp as a child and 21 had been a counselor at camp. Thirty-one of the students said they loved the outdoors with 5 who did not care about it. The number of outdoor recreation activities done as children in the outdoors ranged from two activities to 14 with a median of seven different activities. The number of outdoor activities done in the past year ranged from one to 11 with a median of five activities.

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HYPERQUAL2 was used to organize and analyze the data. The analyses of most interest to the researchers pertained to

examining how the outdoors was perceived in a past, present, and future context and how gender helped to underscore the involvement or lack of involvement of young women. HYPERQUAL2 allowed for the coding of the data in many ways so that the linkages could be examined in developing the grounded theory that emerged in the study. We noted something about the background of students where appropriate, but we did not make any direct comparisons across demographic characteristics since comparisons were not the purpose of this qualitative study.

Although analyzing ethnic comparisons was not the focus of this study, we noted the racial identity of the respondents for several reasons. By describing the race of the study participants, we were able to recognize different aspects of female experiences. In addition, to date most studies pertaining to women in the outdoors have focused on women of white heritage. Although much work needs to be done examining the intersection of race, class, and gender in the outdoors, we wanted to acknowledge the racial identity of the respondents to give visibility to the potential cultural nature of the responses. In considering gender as the central theoretical framework, our interpretations showed how some women's experiences led them to make choices contingent on contexts and relationships, not just because they were biologically female or male. Further, our intent was not to compare females and males or women of color and white women, but to examine the possible contexts that surrounded being female and being involved in the outdoors.

RESULTS

This analyses focused around the young women's reflections of their past, perceptions of their present, and expectations about their future involvement within a gendered context. Examples of these themes are presented with conclusions that provide some grounded theory for summarizing the gendered meanings of the outdoors.

Reflections on Past Involvement

Focus group members initially were asked questions to ascertain how they were involved with the outdoors. Past involvement revealed a variety of responses from the participants. The two primary influences about growing up related to the young women's involvement with family and youth organizations, although not all women in the study had outdoor recreation opportunities. Several respondents discussed what it meant not having much contact with the outdoors while growing up. One student of white heritage who currently does not enjoy the outdoors explicitly stated, "I've had very little experience in the outdoors. I don't like to be in the woods, I've never spent any time in the woods." A student of white heritage offered this analysis:

> And they [people who didn't grow up involved in the outdoors] don't appreciate the outdoors like people that were brought up in it. How you were brought up has a lot to do with it. When you're brought up outdoors I think you're going to appreciate it when you're older and stay with it. I was outside all the time, and that's how I am now, I can't get enough.

Within the contexts of little involvement, as well as family and youth organization activities, other gendered reflections also emerged.

Family

Some individuals were active outdoors with their families while others had few family experiences. Comments included such positive statements as this one by a woman of white heritage who grew up in a city, "My parents loved to camp so we went camping a lot when I was growing up." A similar anecdote described an active white outdoor family:

> Sometimes on Friday mornings he'd [dad] wake us up and say, "Packing up for somewhere cold for three days." And then he'd get in the car and we'd drive...most of the time we ended up in the mountains because that's what we liked.

Another student of white heritage who is a recreation major illustrated her family's involvement in this way:

> For my family it [the outdoors] was really a spiritual place. Everybody else went to church on Sunday and we always went on a hike on Sunday and that's what we were taught. This is what your higher power is—everything out there.

One young white woman who had limited experience in the outdoors growing up but really enjoys it today said, "I think the biggest family thing was like, to go fishing. We'd go out there and bait a hook and pull the fish out and sit outside and clean all the fish and it was just a big Sunday afternoon thing to do." In contrast, an African-American student who said she is indifferent about the outdoors today commented "I guess my family really, they're not really outdoor people...So, I've been fishing a couple of times and I didn't like it too well. But, we always go on picnics and stuff, but I'm not outdoors a lot." Family outdoor activities were not popular with this student of white heritage who currently says she likes the outdoors as long as the weather cooperates: "I used to have to go camping and I hated it, especially when it would rain. I can't stand it when it pours and when it's cold and damp and you smell bad and all that kind of stuff."

Camps and Youth Organization Involvement

A second major influence that young women described was their involvements with camping and youth organizations. Several described how these organizations complimented their family ventures and others described structured camp influences that were not all positive.

A combination of family and other structured outdoor activities was influential as described by this woman of white heritage who continues to be active in the outdoors today:

> My influence has been a combination of things because first of all, my family is a farm family and so everything we've ever done that I can remember has been outdoors. That's been work and play. They [parents] don't believe in room service, my parents are real rugged down to earth people. But then, I really like high risk activities outdoors. And I think some of these things, I was introduced to through camps...It kind of all fitted together—I was introduced to being in the outdoors through being with my parents and the more risky activities didn't have anything to do with them.

In a similar way, another white student who loves the outdoors today noted, "I learned a lot of stuff through the Girl Scouts. I mean, every time we went camping, my parents did all the work. But with the Girls Scouts, we had to do the cooking and we had to clean up and go pack the backpacks and everything."

Because her family was not too keen on the outdoors, an Asian-American student said that she is active in the outdoors today as a result of organized school activities. She commented, "My father, the extent of his outdoor experience is gardening and that's it. My mother and father, when we travel we stay in really nice hotels...[but] camping was a really big part of my high school experience." Similarly, a student of white heritage who is more active in the outdoors today than ever before said, "I went to Girl Scout camp [because] the extent of my parents experience in the outdoors was walking the dog."

Other individuals talked about how a positive or negative outcome of camping with youth organizations did not matter, but just having any kind of outdoor experience seemed to provide an appreciation for the outdoors that carried over into their lives today. For example, one white student said, "I went to camp twice and I hated it both times, but I guess that didn't make much of a difference. I still love the outdoors today." In addition, one student of white heritage who loves the outdoors today described her perception of the impact of Girl Scout camping as:

> We did have to deal with the bugs and things that a lot of people would be squeamish about [but], I got over the negative side. I thought it was a little bit exciting, there were things that you had to deal with, but I really enjoyed it.

Other Issues About Growing Up

Issues of gender were evident when some of the students described their childhood experiences. Tomboyism as an aspect of the outdoors emerged several times in the focus groups. Most of the females agreed that a female did not have to perceive herself as a "tomboy" to enjoy the outdoors, but it helped. None of the women in any of the focus groups verbalized a negative stigma attached to being a tomboy, although not everyone in the focus groups noted or commented about the notion. An African-American student who grew up in a small town said, "I used to be a tomboy, I'm not going to lie. I climbed the trees, I mean I could climb a tree and go anywhere the guys could go." A similar comment was made by a female of white heritage:

> I would spend 90% of the day in the woods. I sort of hung out with all the guys in the neighborhood, there weren't many girls...we would camp out in the woods and play in the creek ...but as I grew older it dwindled where I didn't do a lot of woodsy stuff.

A white student told this story: "I used to go fishing with my dad. I'm the youngest of three girls and I was like, I was a tomboy when I was little, I was like his little boy." Another white student, however, countered some of these ideas by describing her interests and traditional femininity, "When I think of the prissiest woman in the world, she can still like the outdoors. I don't think it [being a tomboy] has anything to do with it [being in the outdoors]."

Some gender issues concerning growing up were also evident in comments made about all female groups. One woman of white heritage who attended camp every summer remarked, "[Camp] was all girls and you just stayed in separate cabins and being in the woods and you didn't care what you looked like." An Asian-American student offered a gender based comparison about the Boy Scouts and the Girls Scouts:

> The Boy Scouts, they don't take it, they're like, "Deal with it." You see a bear, you see a bear and you scream and that's it, and then you move on. With the Girls Scouts, it's like, they hold your hand so much, they don't let you do very much of anything.

From another point of view, a woman of white heritage who grew up in a large city and was a camper for several summers said:

> A lot of my experiences were with the Girl Scouts and so for all of the years that I was a camper and a counselor, it was always all girls. And so for me it was never, "You can't do this because you were a girl." I just never thought of it that way because there was never anything I couldn't do just because I was a girl.

Issues of gender seemed to be evident for some of the women retrospectively as they described how they grew up. None of the women, however, admitted that being female had necessarily been a detriment to them during their youth. During the focus groups, several of the women indicated that they had never really thought about the possible influence of gender on their involvement in the outdoors.

Present Perceptions of Outdoor Involvement

When the participants described on the questionnaire their level of outdoor participation from the past to the present, eight students said it had increased, four individuals indicated no change, and 24 noted a decrease. An explanation of the lives of the students interviewed helped us understand more about the continuity or lack of continuity of their outdoor involvements over time. Some of these changes related to gender issues, but other factors affected what the young women were currently experiencing regarding the outdoors.

Increases in involvement often were associated with new opportunities. For example, one woman of white heritage said that she got involved with the outdoors after high school because she had the opportunity to be a counselor and go to camp for the first time, "I learned how to canoe and do a ropes course and so I was kind of like learning to be a kid all over again." The majority of young women in this study, however, described their outdoor activity as decreasing due to a number of common and gender-related constraints.

Common Constraints

Constraints are complex phenomena. For this analysis, we noted individuals who were constrained and did not necessarily care to participate in the outdoors more as well as individuals who wanted to be more involved, but were constrained for a variety of reasons. The perceptions of both types of individuals were noted as we examined constraints to outdoor involvement.

Women whose involvement had decreased and who were not interested in outdoor pursuits generally indicated their continuing discomfort with the outdoors. An African-American woman said, "I mean I like the outdoors. I go outside to think. I'll go outside just to walk around. I'm interested, it's just the temperature I don't like." A woman of white heritage said:

> I don't like to be out in the woods because I don't like bugs and I'm afraid of snakes...like if I walk to the woods I feel like I have bugs crawling all over me... I just don't find it fun to be outside doing much of anything if I'm sweating to death or freezing to death.

Regarding constraints for women who wanted to do more but couldn't, several common constraints emerged that have been uncovered in other studies. Specifically, time and money were mentioned frequently by this group of students. One quote by a woman of white heritage that typified the attitude of several of the young women was:

> I have a lot of things that I want to try in the future but I've not gotten to because of maybe time restrictions or monetary restrictions. Like I would love to go backpacking and stay gone for two weeks but I can't afford all the equipment and stuff.

Related to time and money was the issue of planning that several women discussed. One young woman of white heritage who had gone to summer camp for ten years said, "It takes a lot of time to plan these things [outdoor activities] and a lot of times it involves travel to certain places. And I don't like to be alone either and it involves getting a group together and that takes time." Another white woman remarked, "That's something else nice about going with your family because they planned it and you just went along and it was so easy and you didn't really have a choice and you just went anyway."

Needing Partners for Participation

Although having friends to participate with is a common constraint to leisure for many people, the experiences described by the women in this study reflected a dilemma that was often gender-based. Lack of partners was also associated with fear and a lack of opportunities.

One individual of white heritage who grew up in a small town and had done most of her previous outdoor activities with her family said, "Most of my girlfriends have got boyfriends right now and I've just come out of a relationship so I'm pretty much strained and they're always doing things with their boyfriends." Another woman stated, "My friends don't have time either or they don't think it's [outdoors] important so there's really no one for me to do it with." She went on to say, "I'm not really going to take off and go somewhere alone and go out in the woods alone, especially, you know, the way things are today."

Fear often was the basis for needing partners in the outdoors. This fear generally revolved around gender-based notions. Contradictions were apparent, however, in some of the issues about fear that the female students raised. For example, one woman of white heritage who grew up in a city was not aware of how fear changed her life when she said:

> I don't think about being raped or attacked or being assaulted or anything when I go walking by myself. I mean I just make sure I don't do it where there are not street lights if I'm walking on a street. But most of my activities I do during the day, I just don't think about it.

Another woman of white heritage said, "I would not walk around Raleigh if I was by myself alone. But I would go to the mountains and just walk."

Other women were clear about their fears regarding the outdoors and how it related to them being female. One woman lamented, "I just feel like I couldn't do some of the activities by myself that I would like to do." Another white woman who had previously described the outdoors as a liberating experience during the focus group said, "I wouldn't want to camp by myself. I don't really know why, I guess at night, being out there alone by yourself with nothing around you to protect you except maybe a stick." A woman of white heritage summed up this gendered fear issue by stating:

> I told one of my guy friends that I wish I was a guy because it's just not fair. You know, I should have lived a long time ago when I could have done all these things alone...I mean the most fun to me is just seeing new places and doing new things, but I can't really do that alone.

Gender Expectations and the Outdoors

Even though fear was a gendered constraint, most of the women interviewed indicated that they did not perceive the outdoors today as the primary domain of males with females not welcome. Most respondents felt that females were as likely to be involved as males in most outdoor pursuits other than perhaps hunting. One woman, for example, said:

> I don't know why, I just can't see too many guys saying, "I'm going on a nature walk." I can't see too many women saying "I'm going out deer hunting"...and there are those activities that are kind of equal like white water rafting and canoeing.

Similarly, a woman of white heritage who grew up in a small town indicated that if people thought of the outdoors as a man's world it was "that they're thinking about hunting and fishing. They're not thinking about the whole thing like nature walks, hiking, rafting, canoeing." Another white woman noted that females may get involved in stereotypes that suggest that you should not "be strong and go out and do all that stuff, the outdoorsy stuff" even though this stereotype had not inhibited her at all.

Hunting was an issue that raised reactions among the women who were interviewed. Hunting was considered a "male thing" because as one woman of white heritage stated, "Females, at least from my experience, they don't seem to want to go out and kill a big bear or something." Another woman talked about hunting as being a way for men to "claim their manhood." Another sentiment was expressed by a woman of white heritage who did not enjoy the outdoors. She said, "I feel terrible when I pull a little fish up and I know it's going to die and things like that."

Related to gender as a possible constraint for women in the outdoors was the idea that men are more inclined and encouraged to buy equipment necessary for outdoor activities. One woman of white heritage, who is not as active today in the outdoors as she was in the past, remarked that the outdoors "isn't being sold to women." She said, "When you go into an outdoor store, I'd say three-fourths is for guys. There's this little section for females and the rest is for guys."

Two of the women interviewed thought women were different from men when they were in the outdoors and this was a positive benefit. One Asian-American woman noted that "females are a lot easier to deal with." She described how on a hiking trip other women were encouraging, supportive, and positive influences that helped her along when she needed it. The men on that trip had not been helpful.

Entitlement and the Ungendered Outdoors

Almost all of the women interviewed expressed that they felt entitled to outdoor experiences whether they chose to be involved or not. Many of the students did not feel that as females they were discriminated against or at a disadvantage concerning their outdoor recreation opportunities.

Several women did not feel there were any gender differences in the outdoors. An African-American woman remarked about her perceptions of how times have changed:

> A lot of things are coming about. Mostly, we've found them [women] inside the house or around the yard like I said with my grandmother. But you're finding that more of them are going whitewater rafting, hiking, backpacking, and things like that. It's because the door is open for them. A lot of people think that sharp tools and things like that are just used, men can only handle them because the woman is very gentle and she may hurt herself and stuff like that. But we just have to show that we're equal. I mean, yes, men have more strength in some areas than women do but we all have our places that we fit. And I'm pretty sure there is a place for woman outdoors and we have to let it be more known.

Several women clearly resisted the idea that the outdoors might be gendered. One woman of white heritage said, "If I want to do something, I'm going to do it and I just don't put any kinds of limits or restrictions on myself. I just don't, if it's there and I have an opportunity to do it, I'm going to do it." Another woman talked about not wanting to be the whiny woman in the woods even though she was afraid of spiders—in not wanting to be the stereotyped female, she said, "It makes you do more and makes you get out there." An Asian-American woman said, "I never felt limited...And I've proved a lot of people wrong by doing things they didn't think I could do."

Thus, regardless of amount of involvement, most of the young women interviewed did not want to believe that the outdoors was gendered although their statements about present involvement and their perceptions indicated that some questions clearly existed in their minds. Even though they saw the world as having changed, it was evident that stereotypes about the outdoors still existed to some extent.

Expectations about the Future

Conjecturing about the future is often difficult. Yet to understand aspects about the outdoors, it was useful to examine what these young women saw ahead for themselves. Those women who did not have an interest and appreciation for the outdoors presently were not likely to want to obtain a different involvement in the future. One woman's apprehension related to skill, "I think it's kind of scary sometimes to venture out and do something...lack of knowledge I guess. I just wouldn't know exactly what to do." She did not think that it would be easy for her to learn.

All of the young women who were involved currently in the outdoors indicated that they would like to see their involvement increase in the future. For example, one woman of white heritage said, "I think I'm just going to continue on the things I've always had. I've always been involved and I'm sure I always will." Most females in the study acknowledged the value of the outdoors and said they would participate more in the future if others were available to share the experience.

A number of women commented, often unprompted, about what they would like for their children in the outdoors if they had children someday. A common idea expressed was, "I would like to see my family being outdoors because, it's nice. And I think you should have a certain appreciation for it." A woman of white heritage said, "I have no clue what I'm going to be, where I'm going to be, but I really enjoy being outside and climbing mountains and stuff and I'm definitely going to expose my children to that." An African-American female stated that she didn't know if she would be able to involve her children because of her attitude about the outdoors. She said, "And I'm not too convinced about that if I have little girls. I mean because they're going to be around me and I'm always going to squirm every time I see a bug, so, I mean, most likely they probably will too." Most of the students agreed that they did not want to force the outdoors on their children, but that they wanted them to feel comfortable in the outdoors even if they themselves did not. For example, a woman of white heritage who does not enjoy the outdoors said:

> I would hope that I could raise children that are comfortable outdoors and who could just run in the woods and have a good time.... I would like to be more comfortable in the outdoors, so the thought of spending the af-

> ternoon in the woods wasn't a horrifying thing.

Although concern for one's future family was a gendered type of socialization, none of the women differentiated about the gender of their children except the one who was afraid she was more likely to pass her fear of bugs to her daughters than sons. The comments of these women suggest that future generations of women may not experience either behaviors or attitudes that would connote a gendered outdoors.

CONCLUSIONS

This study provided information to describe a range of gendered behaviors that relate to women in the outdoors. With gender as an organizing theoretical framework, our interpretations exemplified how most women made choices contingent on contexts and relationships, not just because they were biologically female. The impact of changing women's roles, past socialization, and stereotypical gender expectations, however, made the determination of how choices were made difficult. The research adds some depth to understanding the breadth of outdoor involvement for women. New definitions of outdoor meanings will likely emerge as more females resist gendered expectations and develop appreciations, interests, skills, and opportunities in the outdoors.

Several aspects of grounded theory about women in the outdoors emerged from this study. First, a prerequisite to developing an appreciation of the outdoors for women revolved around having exposure to outdoor opportunities as a child. The findings regarding past experience indicated that the young women in this study had a variety of opportunities for outdoor involvement as they grew up. Regardless of whether their outdoor experiences were positive or negative, the exposure to the outdoors seemed to be an important element in how they said they participated today. As indicated by other studies (e.g., Widdekind, 1995), a relationship existed between involvement as a child and future involvement in the outdoors, but this involvement varied greatly among the participants in this study.

Brightbill (1963) suggested that a progression of appreciation, interests, skills, and then opportunities must exist if an individual is to learn to "love" a leisure activity. Therefore, a second grounded theory conclusion is that appreciation, interests, skills, and opportunities in the outdoors develop for females as both a result of and resistance to a gendered society. If appreciations and interests are not developed and females do not feel entitled to learn skills and pursue opportunities, then the outdoors cannot be a context for female involvement. On the other hand, some women who are interested do not have a chance to develop skills or find opportunities due to common as well as gendered constraints. A progression of learning from others, experimentation, and practice appeared to be necessary for the females in this study if they were to resist potential gendered stereotypes of the outdoors and seek positive experiences.

Third, most young women wanted to believe that the outdoors is a gender neutral environment although their involvements often reflected a contradiction in this consciousness between idealized attitudes and the realities of their situations. The students interviewed did not want to see the outdoors as a gendered place although as females, many acknowledged that the outdoors may be more a male domain than a female domain in regard to how it has been traditionally defined. Some women clearly resisted the idea that the outdoors was a male thing and wanted women's visibility to overshadow previous stereotypes. A contradiction existed between the ideal of a gender neutral environment and problems related to stereotypes in the outdoors, fear issues, and difficulty in finding outdoor partners. A sense of "kind of in the middle" was evident in the responses of these women. The females in this study were optimistic, however, about the changing nature of women's visibility in the outdoors. For example, one woman of white heritage summarized this notion:

> I think we are one of the first generations that are able to go out and do it, that have the skills and have the knowledge and don't have the fear necessarily, or the stigma attached to it, as much as years past. I think we've already made a small stretch and I think we are lucky for that.

We noted some differences in participation levels based on race, although any definitive comparisons were not possible given the nature of the research. Seven individuals in the sample were women of color. The African-American students in this study generally were involved less in outdoor pursuits other than family picnics. The two Asian-American students, on the other hand, seemed to love the outdoors and desired to spend much more time there in the future. Issues of race surfaced twice during the interviews. In explaining the lack of involvement of African American students, two observations were made by students. One African American student who grew up in a large city and who was indifferent about the outdoors, noted how it was "kinda racial" because she did not want to be in the sun and get any darker than she was. She also did not like to get her hair sweaty and wet and have to try to "get it back the way I want it to be." Another African-American student indicated:

> You don't see a lot of black people hiking or mountain climbing. You get to the point where there's this stigma that that's not what you do...if I have the opportunity sometime in my life, I would like to do them [outdoor activities]. I think there's a stigma on the things that African-Americans do.

Although more is being written about the involvement of people of color in the outdoors, their relative invisibility seems to perpetuate this stigma. The combination of gender and racial invisibility may be like "double jeopardy" for women of color in the outdoors. Although a small sample, the women of color in this study represented a range of opinions about the outdoors and the meanings it may or may not bring to their lives. The racial background of the students provided some additional information, but few conclusions about racial differences were drawn from these data.

More information about gender, gender relations, and the stigma attached to gender will help us understand outdoor experiences better in the future. This future research can help us understand what being "kind of in the middle" means regarding the influence of gender for both females and males. Whether a female participates alone or with a group, the outdoors is a place where girls and women can set goals, step out of traditional gender expectations, and make empowering choices that can carry over for a lifetime.

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THE CURRENT STATUS OF WOMEN'S EMPLOYMENT IN OUTDOOR LEADERSHIP

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The study analyzed women's employment rates from 62 outdoor organizations to determine women's representation in the outdoor field. Statistical analysis revealed that women were under-represented in outdoor organizations at the executive and management levels using a proportionality standard. Additionally, women reported lower salaries and higher gender-based discrimination occurrences than their male counterparts.

KEYWORDS: *Outdoor, employment, discrimination, women*

Women are participating in outdoor adventure activities in ever-growing numbers (Miranda & Yerkes, 1982; Stringer, 1993). Simultaneous with this surge in participation in outdoor recreation has been a significant increase in the number of organizations offering outdoor adventure programs. Such organizations employ outdoor leaders to guide these outdoor experiences. A common assumption in the outdoor field has been that women's development as outdoor leaders has not kept pace with their participation in outdoor adventure activities (Absolon, 1993; Hampton, 1994), and that women are not very visible in leadership positions in outdoor adventure. This is illustrated in a statement by a female mountaineering student at the National Outdoor Leadership School (NOLS):

> As I've gotten involved in more technical and extensive outdoor adventures, I've seen the number of women leaders decrease greatly. I think if I would have had a female instructor on my NOLS course, I would have felt as if I had someone I could relate to more in terms of a role model. (Hampton, 1994, p. 1)

Though some writing and research has been done on women's participation in outdoor adventure activities (e.g., Bean, 1988; Galland, 1980; Henderson & Bialeschki, 1986; Jordan, 1992; Mitten, 1985; Warren, 1985), few studies have focused on women in outdoor leadership positions (Miranda & Yerkes, 1987; Page, 1986). Relatively little is known about the number of women currently employed in outdoor leadership positions. One of the few statistics currently available in print is that 30% of the National Outdoor Leadership School's instructional staff is women (Hampton, 1994).

Several authors have recognized the need for research about women and outdoor leadership (e.g., Miranda & Yerkes, 1982; Knapp, 1985; Warren, 1985). Knapp (1985) identified many potential "gender traps" in outdoor experiential education that needed to be examined (p. 16). These gender traps included discrimination in hiring, pay equity issues, outdoor skill and leadership competency, traditional gender roles, and communication dynamics. He concluded that gender dynamics in outdoor programs have not been investigated thoroughly.

Miranda and Yerkes (1987) conducted one of the only studies done exclusively on women in outdoor leadership. In their study, entitled *Women Outdoor Leaders Today*, they surveyed 200 women outdoor leaders in the United States and received 130 responses. In the study's introduction, the researchers outlined their major assumption:

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> Gender is a fundamental dynamic factor in the career development and professional advancement of women. This is itself a controversial question among outdoor leaders and is not fully tested in this survey. However, there are some indications that women share a belief that gender is either problematic or positively significant in their professional lives (p. 17).

Their study examined four major areas: educational background, motivations, perception of women leaders, and professional opportunities. Miranda and Yerkes found that over 90% of the survey respondents indicated that "gender has had a marked influence on their careers" (p. 19). The authors concluded that their study was just a beginning and further research was necessary to develop a greater knowledge base about gender related concerns in outdoor leadership. This call for further study was one of the major rationales for the present study.

The present study investigated gender related employment concerns in outdoor leadership. The research addressed gaps in understanding by examining how many women were employed by outdoor leadership organizations, the ratio of women to men employed and the types of positions in which women were employed. Along with this description of the current status of women's employment in outdoor organizations, the study used a statistical analysis of gender ratios, salary and reported incidence of discrimination to further explore potential gender traps (Knapp, 1985). Finally, the research concluded by discussing some of the implications of the results for outdoor organizations.

METHOD

The study utilized a mailed survey to facilitate the collection of data from a large sample of outdoor programs and program administrators. The survey was developed in order to solicit information on two levels: organizational demographics and individual perceptions of outdoor program administrators. On the organizational level, the outdoor program administrators were asked to provide information about their organization such as number and gender composition of staff, gender composition of program participants, type of program, and employment policies. On the personal level, the program administrators were asked to answer questions as individuals. The second part of the survey was developed by adapting an instrument designed by a researcher at the University of British Columbia (Frisbee & Brown, 1991). Information was collected from respondents regarding their individual demographics, career path, and career satisfaction.

Once the survey was developed, it was reviewed for content validity and structure by an expert panel and then the survey was pilot tested. The outdoor programs for the sample were chosen from the *1994-95 Membership Directory and Handbook of the Association of Experiential Education*, a professional umbrella organization for experiential educators which listed 360 member organizations. Since the Association of Experiential Education represents a wide variety of experiential education organizations, including schools, hospitals, and outdoor education organizations, a criterion-based sampling technique was used. Programs that had the words "adventure," "out," or "wilderness," in their names were chosen for inclusion in the study because they would most likely meet the criterion of an outdoor education program with an adventure component. This sampling technique yielded the 103 programs that were surveyed in the present study.

The researcher utilized Dillman's "total design method to survey research" because it is recognized as one of the most effective approaches to maximize response rate (Babbie, 1989). The study produced a response rate of 60% (n=62 of N=103). The survey research literature suggests that a response rate of 50% is generally considered to be "adequate" and a response rate of 60% is generally considered "good" (Bainbridge, 1989).

The statistical analyses of survey data were done using the Excel spreadsheet software program and the SPSS version 6.1 statistical software program for the Macintosh personal computer. In order to gain an overview of the sample, descriptive statistics (e.g., frequencies, ranges, means, standard deviations) were calculated for the respondents' socio-demographic characteristics. In addition, descriptive statistics were calculated on the responses to each survey question to investigate the shape of their distributions. Since the present study was exploratory in nature, statistical tests were required to attain an alpha of .05 for the results to be considered significant (Babbie, 1989).

Statistical analyses were selected to match the types of data collected and the purpose of each survey question. The survey questions that produced nominal or ordinal data were analyzed using nonparametric statistical procedures and tests such as frequencies, cross-tabulations, and chi-square. The survey questions that produced interval data (Likert-type responses) were analyzed using parametric statistical tests such as correlation and analysis of variance (ANOVA).

The choice of parametric tests may be questioned for a non-random sample. After extensive study, however, Kerlinger (1973) contended that unless the sample is "seriously non-normal and variances are heterogeneous, it is usually unwise to use a non-parametric test in place of a parametric one" (p. 287). Additionally, according to Kirk (1982), most parametric tests are robust enough for use with non-probability samples.

RESULTS

The outdoor programs in the sample serviced 160,585 participants in 1994. Of these participants, 41% (n=65,840) were female and 59% (n=94,745) were male. The outdoor programs in the sample employed 3,401 staff in 1994. The overall staff gender ratio was 45% women (n=1,539) to 55% men (n=1,862). Using the one-dimensional chi-square goodness of fit test (Howell, 1992), it was determined that this ratio was significantly different from a theoretical 50-50 gender ratio[1] in the breakdown of the staff (χ^2 [1, n=3401] = 30.68, $p < .01$).

Of the 3401 staff members, 51% (n=1734) were employed year-round and 49% (n=1667) were additional staff hired to cover the peak season. Table 1 provides a visual overview of participant gender ratios and staff gender ratios for various employment categories. Most of the year-round employment categories showed female numbers equal to or greater than the participant female numbers. The executive staff category, however, had a ratio of 38% women to 62% men. Again, using the one-dimensional chi-square goodness of fit test (Howell, 1992), all of the employment categories except support staff and seasonal management showed significant differences from a 50-50 gender ratio at $p < .05$. The outdoor programs also reported the gender breakdown of their governing boards. There were a total of 493 governing board members and 38% (n=186) of the members were women and 62% were men (n=307) which represented a significant difference in the gender breakdown of governing board members from a 50-50 split (χ^2[1, n=493] = 29.7, $p < .01$).

It is interesting to note that of the 62 program administrators who returned surveys, approximately 55% (n=34) were women, while approximately 45% (n=28) were men. This gender ratio is significantly different (χ^2 [1, n=62] = 6.93, $p < .01$) from the year-round management staff gender ratio. The survey instructions asked the person receiving the survey to give it to the person at the organization who was most responsible for the hiring and supervision of field staff such as a program director or staffing coordinator. The significant finding could indicate that women who are being employed at the administrative level are more responsible for

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[1] The theoretical 50-50 gender distribution was used in the chi-square test for the expected frequencies because it closely resembles the gender distribution in the overall population of the United States. Women tend to slightly outnumber men but the 50-50 distribution was used for ease in calculation and understanding.

TABLE 1

Gender Ratios for Participants, Governing Board Members, and Various Staff Categories

Category	*n*	% of Women	% of Men	Significant Difference at $p < .05$
Participants	160,585	41	59	yes
Overall staff	3401	45	55	yes
Year-round overall staff	1734	46	54	yes
Seasonal overall staff	1667	45	55	yes
Year-round field staff	1071	41	59	yes
Seasonal field staff	1451	45	55	yes
Year-round support staff	147	44	56	no
Seasonal support staff	120	48	52	no
Year-round office staff	219	76	24	yes
Seasonal office staff	49	74	26	yes
Year-round management	216	42	58	yes
Seasonal management	47	40	60	no
Year-round executive staff	81	32	68	yes
Governing board	493	38	68	yes

human resources or that the initial contacts tended to pass the survey on to women because they would be more interested in filling it out.

The organizations in the sample were asked if they specifically recruit female staff. Fifty-six percent (n=30) of the organizations answering the question said they recruited women staff members, while 44% (n=24) said they did not specifically recruit female staff. As a follow-up question, the organizations were then asked how they recruited women. The two most frequently mentioned methods were through word of mouth (n=15) and through advertisements in outdoor jobs newsletters (n=18) such as the *Association of Experiential Education Jobs Clearinghouse*. One program stated that it always included the phrase "women and minorities are encouraged to apply" in all its advertising of positions. Ten of the programs recruited through college placement offices and employment fairs. Some (n=4) of the organizations recruited women by sending program directors to conferences to network with other organizations, hold informational meetings, and interview potential female staff. One organization set aside special scholarship money for talented female students on its instructor course and provided special technical skills development opportunities for female staff in a single gender setting. Two of the organizations tracked talented women students in their programs and then specifically invited them to apply for staff positions. Another organization had an instructor development program for female staff.

Gender ratios were calculated for programs that specifically recruit women and those that don't. In the categories of overall year-round staff, year-round executive, and seasonal field staff, organizations that specifically recruit women had a lower percentage of women compared to organizations that don't specifically recruit them. Organizations that specifically recruit women had a higher percentage of women in the year-round and seasonal management categories.

Although none of the differences mentioned above were statistically significant, they raise some interesting questions. Some might expect organizations that specifically recruit women would have higher percentages of women, but this did not hold true for all categories in this sample. It may be that organizations that specifically recruit women have this policy because they have experienced difficulty in hiring women staff, hence the lower percentages. It could also indicate that the recruitment practices being used are ineffective. Since the survey did not gather staffing information over a number of years, these questions cannot be answered within the present study.

The organizations were also asked if, according to federal guidelines, they were equal opportunity employers and affirmative action employers. Eighty percent (n=43) checked that they were equal opportunity employers, and 39% (n=21) indicated that they were affirmative action employers. It is interesting to note that almost half (48%) of the program administrators surveyed did not know if their organizations were affirmative action employers, since these program administrators are responsible for hiring within their organizations.

Organizations listing themselves as equal opportunity employers showed either slightly lower or equal percentages of women employees compared to the organizations that did not. On the whole, organizations listing themselves as affirmative action employers tended to have higher percentages of women employees compared to the organizations that did not have an affirmative action hiring policy. The category of executive staff was the only exception to this trend.

The staff gender ratios for non-profit and profit organizations were also calculated and compared. Overall, there was very little difference in the staff gender ratios between the two types of organizations, although there was a significant difference in the gender ratios of staff at the year-round management level ($\chi^2[1, n=54] = 4.0, p < .05$). When the number of year-round management level staff was summed for profit-based organizations, the ratio was 32% women to 68% men. When the number of similar staff was totaled for non-profit organizations, the ratio was 43% women to 57% men.

As part of the survey, respondents were asked to identify their salary range. Table 2 summarizes their responses. A one-way analysis of variance (ANOVA) suggested that there was significant difference in the salaries of year-round female and male program administrators ($F\ [1, 53] = 6.29, p < .01$). Following up on the ANOVA, several measures of central tendency were examined. The mean salary range for year-round female program administrators was $25,000-$29,999, with the mean salary approximately $25,833. The mean salary range for year-round male program directors was $30,000-$34,999, with the mean salary approximately $32,599. The modal salary range for year-round females was $25,000-$29,000, while the modal salary range for year-round male program administrators was over $45,000. Respondents were also asked to rate the extent to which their expectations about salary had been met in their outdoor leadership careers. The results were analyzed using one way ANOVA. There was a significant difference between the responses of the female and male administrators in the area of salary expectations ($F\ [1, 58] = 7.38, p < .009$); female administrators were less satisfied (mean = 1.64, range = 1-3) with their salaries than male administrators (mean = 2.11, range = 1-3).

To further examine the issue of salary differences, some possible explanations were explored statistically. Although there was a significant difference for salaries between education levels, ($F\ [4, 56] = 2.92, p < .03$), there were no significant differences in the education levels reported by female and male program administrators. Additionally, there was no significant interaction between gender and

Table 2

A Summary of the Program Administrators' Reported Salaries

SALARY	FEMALE		MALE	
	n	%	*n*	%
• Under $14,999	6	18.2	2	7.1
• $15,000-$19,999	2	6.1	3	10.7
• $20,000-$24,999	5	15.2	2	7.1
• $25,000-$29,999	10	30.3	4	14.3
• $30,000-$34,999	4	12.1	5	17.9
• $35,000-$39,999	1	3.0	3	10.7
• $40,000-$44,999	3	9.1	2	7.1
• Over $45,000	2	6.1	7	25.0

education variables when a two-way ANOVA was performed on the salary data. Thus, differences in education cannot be used to explain the differences in salary.

Another possible explanation for the differences in program administrators' salaries is the number of years of experience. Program administrators were asked to provide information about their outdoor leadership work history and length of employment in several employment categories. Means were calculated for years of experience in the various employment categories. Follow-up analysis revealed no significant differences in the years of experience between female and male program administrators in any employment category. Additionally, no significant difference was found when total years of experience was compared. Therefore, differences in years of experience cannot be used to explain the differences in these program administrators' salaries.

Finally, the program administrators were asked how often they had felt discriminated against in the field of outdoor leadership based on their gender. Twenty-nine percent (n=10) of the female administrators reported never feeling such discrimination, while 68% (n=19) of the men reported likewise. Feeling discriminated against once or twice were 32% of the women (n=11) and 21% of the men (n=6). Twelve percent (n=4) of the female administrators reported feeling discriminated against three or four times, and 11% of the male administrators reported similarly. No male administrator reported feeling discriminated against five or more times on the basis of his gender but a large portion of the female administrators (27%, n=9) reported feeling discriminated more than five times based on their gender.

Analysis (one-way ANOVA) found that there was a significant difference in the levels of gender-based discrimination reported by female and male administrators (F [1, 60] = 13.43, $p < .001$). Of the administrators reporting at least one incident of discrimination, 73% were female while 27% were male. The female administrators reported a greater incidence of gender-based discrimination (mean = 2.35, range = 1-4) as compared to the male administrators (mean = 1.42, range = 1-4). When the results were adjusted for differences in sample size (to allow comparison between groups), the female administrators reported at least 56 cases of discrimination based on gender while the male administrators reported at least 12 such cases.

DISCUSSION

Some of the results pertaining to the current status of women's employment in outdoor leadership were surprising and challenged current assumptions in the outdoor adventure field, while other results confirmed them. Many outdoor programs aim to have the number of female staff they employ, match or exceed the number of female participants they serve (Hampton, 1994). If the number of women employed does not match the participant numbers, women employees are defined as underrepresented. This defining process is similar to the "proportionality measure" that is one method used to assess compliance with Title IX in college sports (Acosta & Carpenter, 1988). A college is said to be in compliance with Title IX if the resources given to female athletes matches the proportion of female students in the undergraduate population.

Prior to the present study, a wide-spread belief was that women were underrepresented in outdoor leadership organizations (Absolon, 1993, Hampton, 1994). It was assumed that women were underrepresented at all levels of employment, such as field instructors, program administrators and executive staff. Using the outdoor program version of the proportionality measure as a standard, women, as expected, were underrepresented at the executive and governing board levels. Women's employment at the field instructor, support staff, and office staff levels exceeded the female participant proportion. This result was surprising since the assumption was that women were underrepresented at all levels. Though it is common practice for outdoor organizations to use their participant gender ratio as a benchmark for evaluating their staff gender ratios (Hampton, 1994), many of the survey respondents thought that outdoor programs should aim to have gender ratios in their students and staff match that of the general population. One study participant expressed this thought: "My theory is that we are conditioned to expect there will be less [sic] women in outdoor organizations. We are surprised and happy when we've reached 30-40% representation. Why shouldn't we expect 50%?" If a 50% male 50% female gender proportion is used as a standard, women in this study were underrepresented in every staff category except office staff. Please note that these findings relate to the organizations in the study sample only, with no attempt to generalize to the field.

In her study of the corporate environment, Kanter (1977) noted that women are underrepresented in male-dominated organizations because of the interaction of three variables: opportunity, power and proportion. Opportunity refers to an individual's perceptions of her or his prospects to move up the career ladder. Power refers to the amount of influence that an individual wields within an organization and to the existence of mentors and supportive peers. Proportion refers to the ratio or numbers of a particular group within an organization. In this study, proportion refers to the ratio of female staff to male staff in outdoor leadership organizations.

Kanter (1977) found that within corporate environs, the people which have the greatest similarity in terms of socio-demographic characteristics to the administration are the ones most likely to be hired and promoted. She defined this process of hiring employees who are similar to the dominant group as "homologous reproduction" (p. 48). Since historically women in outdoor organizations have had less opportunity, less power, and fewer numbers than their male peers, their continued under-representation may be attributable to homologous reproduction.

IMPLICATIONS FOR OUTDOOR ORGANIZATIONS

The above findings have several implications for practice. First, during the study it became evident that two standards for determining under-representation exist within the field of outdoor leadership: the proportionality standard and the overall population standard. As seen above, the choice of standard influences the outcome of the analysis. Further study is necessary, at both the organizational and field levels, to determine the most appropriate standard for use by outdoor organizations and for doing future analysis. Second, additional research is needed to "break open" (Strauss & Corbin, 1990, p. 75) the gender ratios found in this study to better understand the additional factors that influence women's employment (Loeffler, 1995).

Salary is another indicator of occupational status. Many female respondents expressed concern about the amount of remuneration they receive. Several said that early in their careers they did not care about salary issues, but later realized they needed to start planning for retirement. Many women mentioned they were contemplating leaving the field of outdoor leadership because of their low salaries. One woman summed up her decision by saying:

> I'm leaving outdoor leadership because I don't want to retire in poverty. I didn't much think about the money early in my career because I was having so much fun. It wasn't until I was older that I began to see the implications of subsistence living.

The study results support Knapp's (1985) identification of pay equity as a potential "gender trap" for outdoor organizations. One female respondent commented that although her organization had several "pro-women policies," she suspected that women in her organization were paid less than the men. Three other women also mentioned concern over pay inequities and overall, women were less satisfied with their salaries than their male counterparts. In the present study, male administrators reported salaries that were significantly higher than female administrators and this difference could not be explained through differences in education or years of experience. Issues of salary and pay inequity are key for women employed in the outdoor field. Outdoor organizations need to examine their remuneration policies for gender bias and further research is necessary to examine the effects of low salaries on staff retention.

In this study, women reported the incidence of gender-based discrimination at a significantly greater rate than men. Further study is necessary to investigate and disclose the nature of such discrimination and it's influence on women's employment in outdoor leadership. Once the discrimination is better understood, outdoor programs will be able to make programmatic or procedural changes to maximize women's career opportunities.

The present study investigated the current status of women's employment in outdoor leadership. The study analyzed women's employment rates from 62 outdoor organizations to provide a clearer overall picture of women's representation in the field. Statistical analysis determined that women were under-represented in outdoor organizations at the executive and management levels using the proportionality standard and under-represented at all levels except office staff using the population standard. Further analysis determined that women reported lower salaries and higher gender-based discrimination occurrences than their male counterparts. Further study is recommended to further understand all of these and other variables influencing women's employment in outdoor leadership.

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THE PERMANENCY OF A SPECIFIC SELF-CONCEPT

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The Adjective Check List was used to measure a global and a specific self-concept. The results indicate differentiation between the global self and a specific adventure self as mountaineer and a high degree of permanency was found in the specific self at the follow-up thirteen years later.

KEYWORDS: *Self-concept, outdoor adventure, specific self, adjective check list, global self, long-term effects*

INTRODUCTION

Conceptions of the self have an extensive research tradition and historically have emphasized the general or total self-concept. More recently, researchers in self-concept have argued for multidimensional models of self which includes both a general construct and specific dimensions (e.g., Byrne, 1984; Gergen, 1971; Markus & Nurius, 1986; Marsh, 1986, 1990). The hierarchical model of the self (Byrne 1984; Marsh, Byrne, & Shavelson, 1988; Shavelson, Hubner, & Stanton, 1976) describes the global self as an overall self which is influenced by more specific domains of the self. Specific dimensions of the self have included broad domains such as the academic self, as well as more narrow selves such as a math academic self (Marsh, 1990). Research in physical self-concept has demonstrated specific physical self domains such as strength, sport ability, endurance/ fitness, appearance (Fox & Corbin, 1989; Marsh, 1994). The hierarchical self is conceptualized as a pyramid structure with progressively greater specificity at the lower levels of the pyramid. Ultimately, the base of the self-concept triangle rests on specific experiences within certain domains that create the phenomenal self in both specific and more global dimensions.

Recent research places greater emphasis on understanding the self in its specific dimensions. The assessment of self-concept must move from the global domain to focus on the specific roles of the participant (Griffin, Chassin, & Young, 1981) or the self-report from the specific experience itself (Wright, 1982). Research in outdoor education should reflect the perspectives demonstrated in other educational areas like the academic self-concept or the physical self-concept. Marsh states, "I am not arguing that researchers should completely abandon measures of general self-concept and general physical self-concept, but researchers and practitioners should place more emphasis on the specific physical self-concept domains particularly relevant to their concern" (1994, p.322). Within a recreational context, researchers could assess self-concept in specific roles, such as athlete, basketball player, kayaker, mountaineer, or from the context of a single outdoor recreation experience.

Stability of Specific Self-Concept Measures

The question of stability of a self report is essential to the purpose of this research. The hierarchical self-concept originally hypothesized that the global self would be the most stable dimension of the self (Byrne, 1984). However, studies on specific self-concept suggest that the specific selves may show more stability than global domains. Shavelson and Bolus (1982) failed to find greater stability of the general self in a study related to academic self-

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concept. Marsh, Richards, and Barnes (1986, 1987) reached a similar conclusion in their research with Australian Outward Bound, stating, "Data from this study also suggest that general-self is substantially less stable over long-term intervals than more specific facets of self" (Marsh, et al. 1987, p.490). The Youth in Transition study (Bachman, O'Malley, & Johnson, 1978) also found a higher stability in specific dimensions of self than in a general self-concept scale when assessed two years apart.

The proposition of a reasonably stable specific self is critiqued by some self-theorists from the sociological tradition who suggest that in very specific settings a person's self evaluations may be quite variable due to the influence of others in that setting (Gergen, 1982). However, Gergen's laboratory style research argues that the individual may change a specific self-report from one situation to another based on who is there and does not really address the issue of consistency in recall of a self-report. If a person accurately stores a specific self experience and it is reported accurately at a later time, it would be reasonably stable within the person. The high variability that can be seen across specific-self reports in different settings is a different issue than the issue of consistency over time or consistency in recall of a self-description.

Based on the empirical studies from the hierarchical self model, the hypothesis for this study would predict stability for the situationally specific self. The researcher does recognize that previous research on specific self measured a specific domain such as physical self (Marsh, et al., 1987), whereas the current study measures a specific self in a single situation: a mountaineering experience.

Influence of Memory on Specific Self-Concept Measures

The study focuses on the measurement of a situationally specific self-concept that was taken immediately after an outdoor experience and then measured 13 years later. The recall of a specific self concept raises the question of the role of memory in self-concept. Can one expect specific recall of a self-perception after such a long period of time has passed? Literature on autobiographical memory helps respond to the memory question. Autobiographical memory, which is defined as the capacity to recollect personal events of one's life (Rubin, 1986), has seen renewed and sometimes controversial interest. Self memories are divided into two categories: episodic and semantic. Semantic information is material that is repeatedly experienced by the person, such as relatives' names, and is considered part of the general information of one's personal past. Episodic information, on the other hand, is memory of single incidents that can be referenced to a specific time and place. The recall of a specific self-concept would be asking the person to reflect on an episodic memory.

One of the characteristics of certain episodic autobiographical memories is the clarity or vividness of the memory. Brown and Kulick (1977) used the term "flashbulb memory" as recalling personal experiences in reference to historical events such as the Kennedy assassination. Flashbulb memories were labeled as such due to their clear, vivid, almost life-like properties, in addition to meeting other established criterion. Rubin and Kosin (1984) utilized the term "vivid memories" as an extension of the work of Brown and Kulick. Vivid memories were clear like a flashbulb snapshot but they were found to be more inclusive of different types of self-memory.

The relevance of this literature discussion is that researchers (Rubin & Kosin, 1984) found that a young adult sample group showed that the number of years since the experience showed little influence on memory in terms of meeting the criteria of clear and vivid quality of the memory. Long-term specific memory can be a vivid memory. Rubin and Kosin (1984) remind us that "vividness, however, should not be confused with accuracy. In this regard, it is almost certain that most of the memories are inaccurate in some respects" (p. 84). The expectation that subjects may have vivid recall of a specific event and perceptions of themselves in that event is reasonable. If the event was considered personally important and if it had emotional impact, then vivid memory would be more likely to occur (Rubin & Kosin, 1984; Mackavey, Malley, & Stewart, 1991).

Limitations and Purpose

This research project is based on the clear support for specific domains of the self within the self-concept literature. Furthermore, some studies suggest that the specific self will show consistency over time and may even be more stable than a global self. The related research on autobiographical memory lends support for expecting a vivid recall of the specific self-report.

The study excludes from analysis the question of stability between the global self measures as well as whether the specific self is more stable than the global self. The study is also limited by the narrow scope of the study population. The study used a single age group; adolescents. The small study size of 31 subjects also limits the conclusions. More variance in long term measures, rather than the single 13 year follow-up, would have created a stronger study, but the situation did not allow for that design opportunity.

The purpose of the study was to explore the situationally specific self-concept of participants in a mountaineering experience and then to assess whether the recall of that self-concept was stable in a long term follow-up. The hypothesis was that the specific self concept would be different from the global self-concept and that the specific self-concept would show stability when the original and follow-up measures were compared.

METHOD

Design and Subjects

The study explored a long-term follow-up of a specific self measure taken from a major mountain ascent. In the original study (Wright, 1982), adolescents from a nine week adventure camp program in 1978 were given a global self measure on day two of the program, and then a month later the group climbed Mt. Rainier (14,410 ft.), which is a snow and ice climb in Washington state. Participants engaged in a two-day climbing and training school at the base of the mountain and then spent day three climbing to the 10,000 foot base camp, with the climb to the summit and the descent on day four. The self measure was administered as part of the relaxation day following the descent (Day 34). At the end of the summer, the campers were given another global measure (Day 64).

Thirteen years later (Day 4800+/-), the adolescents who were now young adults were given the same measures as the first study (a global and a specific self), 30 days apart. The order of taking the specific measure or the global measure was determined by random assignment. The follow-up data were collected in 1991.

The original study group (*N*=57) consisted of 34 males and 23 females. Campers ranged in age from 14-18 years, with a mean age of 15.5. In the search for the original subjects, 44 of the 57 were able to be contacted, and 77% of that group responded to the study. Because of incomplete questionnaires, the final study group was 31 young adults, which represents 53% of the original subjects. The age range was 28-30, with a mean age of 28.7 years. Sex was fairly equally divided, with 17 males and 14 females.

Adjective Check List as a Self-Concept Measure

The Adjective Check List (ACL) developed by Gough and Heilbrun (1983) in the late '50s is one of the most widely used instruments in personality assessment. The instrument consists of 300 adjectives listed alphabetically, and the respondent checks all those adjectives that would be considered self-descriptive. The current manual provides scoring for 28 original scales related to personality and self-constructs. Nine additional scales have been developed, with five scales related to the transactional analysis paradigm and four scales assessing Welsh's origence-intellectence dimensions, for a total of 37 scales.

The ACL was developed primarily as a personality instrument to assist clinicians with assessment, although it has been more widely used in research. The normative sample upon which the ACL scores have been based is 9,402 subjects. Internal consistency for the 37 ACL scales show acceptable median values of .76 and .75 for males and females, respectively. Test-retest correlations for all scales show a median correlation of .65, with a range of .77 to .34. The ACL has been criticized (Wylie, 1974; Fekken, 1984) and was not included in the self-concept instruments reviewed by Wylie in 1989. The chief complaint against the ACL has been the potential overlap between existing scales, raising construct validity problems. Despite the critiques, the ACL remains popular as an assessment tool because of its simplicity and diverse applicability.

The unique benefit of the ACL for use in the present study was its flexibility in application. The ACL has been successfully used for new applications. By modifying the standard directions for the instrument, the respondent can describe a variety of events or persons with a well used set of adjectives. The ACL was used by Williams and Best (1990) to assess masculine and feminine characteristics in their major work exploring cross cultural sex stereotypes. The ACL has also been used in psycho-biographical studies to describe past presidents (Simonton, 1986). The flexibility of the ACL allows it to be adapted easily to measure a specific dimension of the self, as well as to measure a global view of self. The specific view of self in the context of an adventure experience can be compared with standard scales reflective of dimensions of the self and also allow for a structure free assessment by simply noting the frequency and distribution of single adjectives selected to be self descriptive.

The capacity for the ACL to explore the picture of the specific mountaineering self in an open-ended style was a key factor in its selection for this type of exploratory research. Recently developed specific self scales (e.g. Marsh, Richards, Johnson, Lawrence & Thrombin, 1994; Fox & Corbin, 1989) are based on developing a theoretical suggestion of specific self dimensions and then creating test questions to assess that dimension. The instrument is then tested for its validity and reliability in measuring the *a priori* constructs designed by the test's authors. The ACL, on the other hand, allows for some exploration of selected standard scales that are appropriately viewed as domains of the self-concept, while at the same time allowing for a reflective analysis of potential dimensions of the specific self based on the groups of particular adjectives that were checked.

The standard directions for the ACL are listed below and were used to assess the global self.

> This booklet contains a list of adjectives. Please read them quickly and put an X in the box beside each one you would consider to be self descriptive. Do not worry about duplications, contradictions, and so forth. Work quickly and do not spend too much time on any one adjective. Try to be frank and check those adjectives which describe you as you really are, not as you would like to be. (Gough, 1952, p.1).

The ACL was administered to assess the specific self by shifting these directions to a specific context as illustrated below.

> *Think for a moment about your ascent of Mt. Rainier and how you felt about yourself. Read through the list of adjectives quickly and put an X in the boxes beside each one of those adjectives that would describe you during your experience of Mt. Rainier. Those adjectives that would not describe you as you reflect upon your experience of Mt. Rainier should be left unchecked. Be frank and honest in your answers and do not spend too much time on any one adjective.*

The standard directions were used to measure the global self pretest, posttest, and follow-up test, and the modified directions were used to measure the specific self at the initial assessment and the follow-up.

ANALYSIS

Analysis of the data included both descriptive and parametric techniques. The standard scales of the ACL were analyzed using the Minitab statistical analysis program. An analysis of variance tested for a difference between the global self and specific self measures. The analysis also included a descriptive report of frequencies of particular adjectives used to describe the specific self.

Analysis of the Standard Scales of the ACL

The standard scales of the ACL are based on the number of indicative adjectives checked for that scale minus the number of contra-indicative adjectives checked. With the standard directions, the total number of adjectives checked out of a possible 300 is a normal distribution, with a mean of 93.40 (*SD* = 36.36) for males and 97.37 (*SD* = 34.64) for females. The total number of adjectives checked is considered a free variable of the instrument indicating an expressive component of the personality, but it serves primarily as a means for standardizing the scoring on other scales relative to the number of adjectives checked. If, for example, one person checked 60 adjectives and another person checked 130 adjectives, the various scales would be affected if the scores were not adjusted for the total number of adjectives checked.

The study group raw scores for Total Adjectives Checked at each of the five test occurrences is shown in Figure 1. The means for Total Adjectives Checked follows the pattern of the letter W with the global self reflecting a normal number of adjectives checked (averaging over 100 on the global measures) with the specific self mean dropping to 76.48 at the first measure and 45.16 at the follow-up measure.

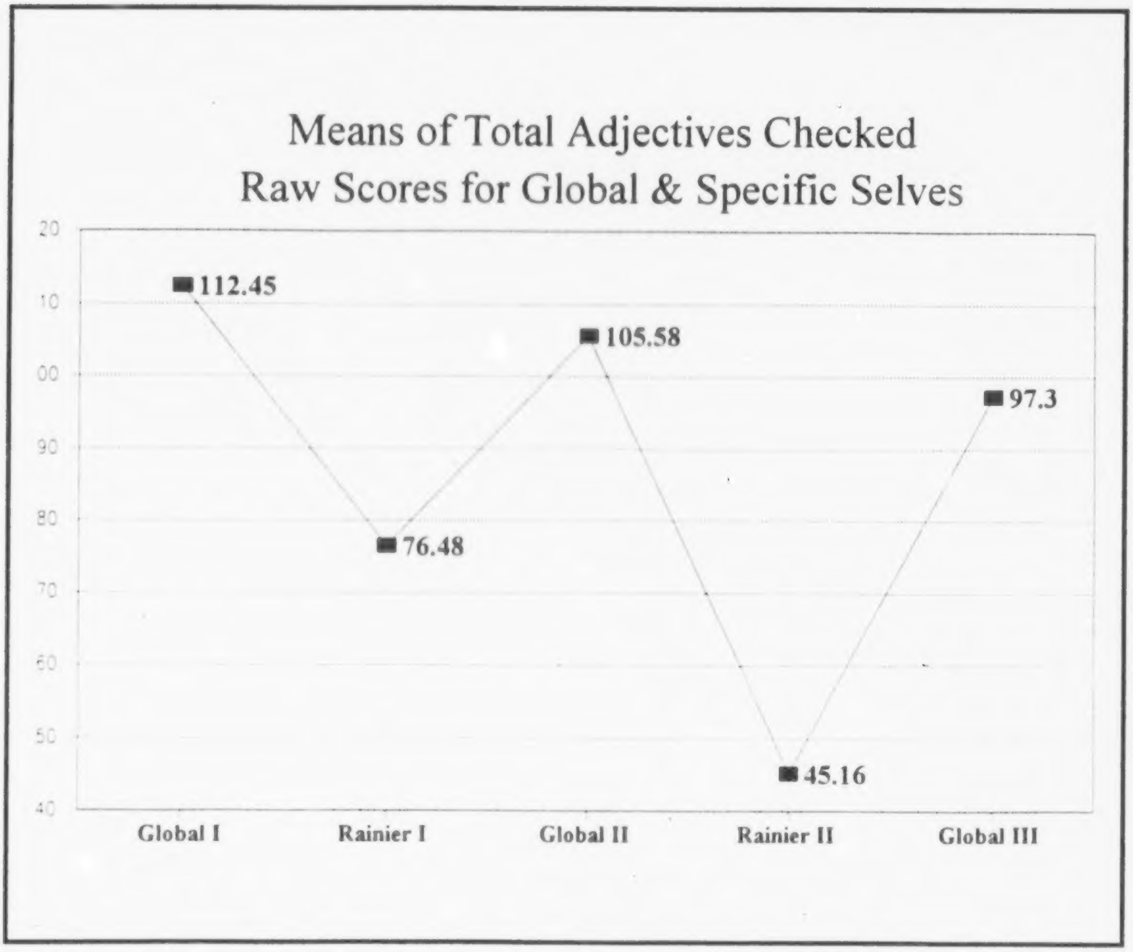

Figure 1. Means of total adjectives checked

Differentiation of Specific Self

One of the key indicators of a difference in the global view of self and the specific adventure self was this change in the total number of adjectives checked. The t-test values for the difference in total adjectives checked at the global selves and the specific selves found significance beyond the .001 level. The W shape of the total adjectives checked scale (see Figure 1) becomes the common pattern for the majority of the basic 28 scales of the ACL. Thirteen scales follow this basic W pattern, with the implication that the scales represent a negative shift between the global and specific self.

Previous work by Wright (1982) using the ACL to assess a specific adventure self found a significant positive shift in a cluster of scales related to a person being goal directed, achievement oriented, and confident in the pursuit of tasks. The positive shift between global self and specific self would be represented by the shape of a shallow M when graphed. Eight scales followed this basic shallow M pattern and suggested a clear positive differentiation between the global self and the specific selves on these salient dimensions. The difference was greater between the immediate specific self and corresponding global measures, with six of eight scales significant at the .05 level. The difference between the memory self and the follow-up global measure was less, with two of eight scales significant at the .05 level. Yet, the shallow M or flat characteristic of these scales stands in sharp contrast to the W patterns of the majority of standard scales. A review of means and t-test values can be found in Table 1. The scales with the M pattern suggest a clear positive differentiation between the global self and the specific selves on these salient dimensions.

Consistency Between the Specific Selves

One way to test for stability and permanence of the specific self is to compare standard scales of the Immediate Self directly with the Memory Self. Of the eight scales showing positive influence, only two showed a significant difference between the two specific selves ,and those differences reflected a more positive view being expressed at the follow-up test. The T2 to T4 comparison in Table 1 shows the actual t-values and confidence interval. The overall lack of significant difference between the immediate self and the memory self would suggest a stable specific self image.

Analysis of Adjective Frequency

It is helpful to look at the frequency distribution of specific adjectives checked in order to test for consistency and inconsistency between the specific selves. The list of adjectives in Table 2 shows those adjectives checked most frequently at the memory self and the immediate self. The order of adjectives in Table 2 is based on the percentage ranking reflecting the memory self. All adjectives checked by 50% or more of the participants were included in the table. The reader can note the similarity between the two specific selves. The Pearson product moment correlation technique was used to test for the strength of relationship between the two specific measures. The Pearson *r* was .85, based on the relationship of number of times particular adjectives were checked at the two specific selves. The strong relationship was consistent when calculated separately for males (*r*=.802) and females (*r*=.803).

DISCUSSION OF RESULTS

Specific Self: Different and Stable

The analysis of the standardized scales demonstrates a difference between the global and specific selves. Based on the drop in overall number of adjectives checked and the distinctly different patterns in scales (the majority with the distinct W compared to the minority with shallow M), the specific self seems to reflect a more selective, focused self.

The specific self seems to demonstrate a fair degree of stability between the immediate self and the memory self. The .85 correlation indicates a strong relationship, and the M scales showed no significant negative change between the two specific selves.

Specific Self: A Definition

If the specific self appears relatively stable over time, what essential definition of this specific self emerges? A brief summary of the scales in Table 1 helps define that image. The

Table 1

ACL Scales with Positive Change Patterns Between Global and Specific Selves

	Means (and SDs) for:					t-test of Significance for Selected Pair-Wise Comparisons		
	Global I	Rainier I	Global II	Rainier II	Global III			
	T1	T2	T3	T4	T5	T1-T2	T4-T5	T2-T4
ACL Scales								
Achievement	50.73	58.53	54.65	61.62	56.78	-4.01***	2.20*	-1.47
(ACH)	(7.88)	(7.44)	(6.37)	(8.98)	(8.18)	(.000)	(.032)	(.15)
Endurance	49.04	54.44	52.46	59.18	55.16	-2.99**	2.00*	-2.49*
(END)	(7.23)	(6.99)	(5.10)	(7.97)	(7.72)	(.004)	(.05)	(.016)
Leadership	48.62	53.76	52.43	54.16	54.49	-2.54*	-.18	-.20
(MLS)	(6.99)	(8.83)	(6.46)	(6.60)	(7.33)	(.014)	(.86)	(.84)
Order	47.92	50.22	50.17	55.31	54.45	-1.26	.40	-2.71**
(ORD)	(7.24)	(7.19)	(5.23)	(7.61)	(8.20)	(.21)	(.69)	(.009)
Dominance	51.18	56.47	57.56	59.51	57.62	-2.95**	.85	-1.49
(DOM)	(7.56)	(6.52)	(6.29)	(9.33)	(7.99)	(.005)	(.40)	(.14)
Self-Confidence	52.81	58.60	57.69	61.47	59.04	-3.01**	.99	-1.21
(S-CFD)	(7.20)	(7.93)	(8.16)	(10.58)	(8.59)	(.004)	(.33)	(.23)
Masculine	50.35	55.99	53.82	55.10	55.29	-2.47*	.51	.36
(MAS)	(9.87)	(8.04)	(10.74)	(11.22)	(8.77)	(.017)	(.61)	(.72)
Autonomy	49.70	51.54	50.63	53.93	52.94	-.89	.41	-1.19
(AUT)	(9.06)	(7.14)	(6.78)	(8.61)	(9.94)	(.38)	(.68)	(.24)

Note: Test symbols are defined as T1 = Global Self I (Pretest), T2 = Specific Self I of Rainier (Immediate Self), T3 = Global Self II (Posttest), T4 = Specific Self II of Rainier (Memory Self/ 13 yr Follow-up), T5 = Global Self III (13 yr. Follow-up).

*p < .05; **p < .01; ***p < .001; p values in parenthesis

Table 2

Percentage of Persons Checking Selected Adjectives at Specific Selves

	Rainier I (Immediate Self)		Rainier II (Memory Self)		Percent of Change Between Tests
Adjectives	Number	%	Number	%	%
Adventurous	27	87.1	29	93.5	6.5*
Determined	29	93.5	28	90.3	-3.2
Alert	28	90.3	25	80.6	-9.7
Capable	28	90.3	24	77.4	-12.9
Active	29	93.5	23	74.2	-19.4
Ambitious	26	83.9	22	71.0	-12.9
Adaptable	25	80.6	22	71.0	-9.7
Persevering	10	32.3	22	71.0	38.7*
Persisent	19	61.3	21	67.7	6.5*
Energetic	22	71.0	21	67.7	-3.2
Strong	20	64.5	21	67.7	3.2*
Confident	27	87.1	20	64.5	-22.6
Anxious	27	87.1	20	64.5	-22.6
Courageous	19	61.3	20	64.5	3.2*
Cooperative	27	87.1	19	61.3	-25.8

Note: Adjectives selected based on over 60% frequency on follow-up (Memory Self) measure
* equals positive increase in frequency at follow-up measure

following definitions are taken from the ACL Manual (Gough & Heilbrun, 1983). *Achievement* (ACH), which showed the greatest amount of change, is defined as a hard-working, goal-directed individual who is determined to do well and usually does. *Endurance* (END) means to persist in any task undertaken. *Military Leadership* (MLS) is defined as one who shows self-discipline and who works hard to see that goals are attained. *Order* (ORD) means one places emphasis on neatness, organization, and planning in one's activities. *Dominance* (DOM) is to seek and maintain a role as a leader in groups, reflecting someone who is strong-willed, ambitious, and determined. *Self-confidence* (S-CFD) is reflected by someone with poise, self-assurance, confidence; an initiator, confident in her/his ability to achieve goals. Persons scoring high on *Autonomy* (AUT) are independent, autonomous, assertive, and self-willed. *Masculine* (MAS) is indicative of people who perceives themselves to be ambitious and assertive, quick to get things moving and stubbornly insistent on attaining their goals. It should be noted that when MAS scores were analyzed separately for men and women, scores were comparable, with women having slightly higher scores on the scale.

Specific Self: Changes Between the Immediate Self and the Memory Self

The memory self showed an overall drop in the number of adjectives checked at the follow-up (means ranged from 76.5 to 45.2). As people move further away from an event, one might expect key elements of that experience to remain vivid memories, while other dimensions of the experience would not remain memorable. The drop in total number of adjectives checked at the memory self may reflect this phenomena of a more focused description at the memory self.

Of special interest are the adjectives that showed an increase in their frequency at the memory self. Table 1 lists those adjectives that showed a positive increase. One adjective, persevering, showed a large increase (38.7%) at the memory self. Attaining the summit of Mt. Rainier required a one-day approach climb to 10,000 feet, followed by a very arduous climb on day two. Day two began at 4:00 a.m. and required continuous hiking to reach the summit at mid morning. After a short rest on top, the descent climb lasted into the late afternoon. The general perception of novice climbers was that they had been through an endurance event. Other adjectives with positive increases were daring (9%), persistent and adventurous (6.5%), and courageous and strong (3.5%). All these adjectives describe successful mastery of a risk-oriented task.

In other work on the adventure self (Wright, 1982), categories were developed from specific adjectives that defined the self-image, including those listed in Table 2. Categories included goal directed and confident, as well as the category of anxiety. The anxiety-related words (e.g., anxious, alert) come as no surprise, given the perceived or actual risk of mountain climbing. It is noteworthy that the anxiety related words in Table 2 show a more significant drop at the memory self than other adjectives. Participants also experienced what could be described as personal enthusiasm (e.g., energetic, optimistic) and social interdependency (e.g., cooperative) at the immediate self report. The social dimension of the adventure and the emotional descriptions dropped somewhat in the shadow of the primary image of the goal-directed determined adventurer.

Specific Self: Influence of Involvement

One of the confounding variables that might challenge the accuracy of the specific memory self would be participation in other mountaineering experiences following the original study. To determine this influence, a questionnaire collected involvement data on mountain climbing experiences. Only three out of 31 participants (10%) remained active in climbing on snow-covered peaks. Sixty percent had never climbed again, 20% had climbed 1-3 times during the 13 year period, and 10% had climbed 4-6 times since the Mt. Rainier experience. Ninety percent of the group rated their current level of involvement in climbing as very low or not involved at all. Seventy percent of the group had been involved in hiking, and 45% had been involved in backpacking-type experiences, but the dissimilarity of those experiences with the Mt. Rainier experience is certainly stronger than the similarity. Thus, the original image from the Rainier climb did not appear to be heavily influenced by other directly related outdoor experiences. The uniqueness of the summit style expedition made it a good prospect for a long-term evaluation.

IMPLICATIONS AND CONCLUSIONS

This study suggests that the specific view of self collected from an adventure experience of climbing to a mountain summit remains as a primarily stable, permanent self-image, even after 13 years had passed. The positive view of self seen immediately after the experience was characterized as being a goal-directed, self-confident achiever who also felt an inner anxiety, excitement, and a cooperative attitude toward group members. Years later, the self-image maintained the core view of a goal directed achiever but viewed some specific parts of the self-image less intensely, and a few facets were embellished.

The embellishment phenomena is like the old joke about a person's memory and pride having an argument as to exactly what had happened in a past situation. The punch line is that 'Pride won the argument.' Though the participants did see themselves as persevering, daring, and adventurous immediately after the experience, they saw themselves as having been more so years later. Given our positive cultural identification with those characteristics, it is no surprise that people would slightly embellish those attributes. However, the amount of embellishment was very limited (only persevering showed an increase greater than 10%), and the more telling result is the consistency of a goal directed self-image.

The survey also collected anecdotal information about key memories by asking people to relate what they remembered most about the Rainier experience. Key memories were consistent with self-images reported on the ACL. Examples included: "The thrill and the challenge of accomplishing something so great," "Challenging myself to do something I didn't think I could do," and "Terrifying and thrilling at the same time. I faced both extreme self-doubt and tremendous confidence moments later."

When asked about the frequency of recollection of the experience, the average person thought about the experience occasionally (M = 3.3) on a 5-point Likert scale, with possible responses of never-rarely-occasionally-frequently-very frequently. The average span of time since people had thought about the Rainier experience prior to participating in the study was 4.7 months.

Assuming the accuracy of the self-report, it is intriguing to conjecture about the impact the positive specific self could have on the person's global view of self. Future research should include studies that more clearly define the relationship between the specific self and the person's global self. A clear understanding of self-concept structure and the role of a specific view of self on other more global dimensions is essential to understanding whether the permanent specific self has any lasting impact on global dimensions. Perhaps the specific self remains an aloof memory, with no clear connection to the current self-concept. Or the specific self may have become a direct and vital part of the current global self. Or, perhaps, the specific self remains a separate memory which serves as a metaphor for encouraging perseverance and goal directed behavior when facing other life experiences. In the words of one participant, "...within me lies a spot of fulfillment which never abandons my psyche. I always can find a feeling of confidence and courage from these memories."

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EVALUATING THE IMPACT OF ENVIRONMENTAL INTERPRETATION: A REVIEW OF THREE RESEARCH STUDIES

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This paper reviews three research studies that looked at the impact an interpretive experience has on knowledge, attitude, and/or behavior of a park visitor. research methodologies, limitations, and conclusions were discussed for all three studies.

KEYWORDS: *Environmental interpretation, evaluation, environmental education, knowledge/-attitude/behavior change*

INTRODUCTION

The fifth principle of interpretation defined by Freeman Tilden is to provoke visitors to become preservationists of the park they visit (Tilden, 1957). This lofty goal is supported by a significant proportion of interpreters and will be used by the author to define environmental interpretation.[1] Despite the interest and importance of this particular interpretive endeavor, the field has lacked an established framework of goals to achieve this behavior change.

Several studies have been conducted in the related field of environmental education to analyze and identify key variables that are associated with attitude/behavior change. Research conducted by Borden and Powell (1983), Hines (1987), Holt (1988), Hungerford and Volk (1990), Marcinkowski (1989), and Sia, Hungerford, and Tomera (1985/86) revealed that there are probably three categories of variables that contribute to environmental behavior: entry level, ownership and empowerment variables.

Combining the above research with a synthesis of over 100 goals and objectives of interpretation, the author produced a framework of goals and objectives for environmental interpretation. This framework was evaluated and supported by a panel of interpretive leaders throughout North America. The result of this validation process is the Environmental Interpretation Behavior Change Model (Knapp, 1994) illustrated in Figure 1.

The most powerful use of this model is to offer interpretive experiences that include all three variable levels in a sequential hierarchical order. Although this may not assure attitude or behavior change in the visitor, it does offer opportunities to stimulate change. It is important to note that, with the exception of issue investigation goals, all of the directives listed in the above model are outcomes often found in the interpretive literature.

The development of this model is an attempt to offer to the field a "road map" to achieve knowledge, attitude, and/or behavior change in a park visitor. It is a framework in which the field can attempt to evaluate which variables are more successful in achieving this behavior change goal. For the past three years, Indiana University's Department of Recreation and Park

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[1] A communication process for revealing meanings and information of natural resources and their relationships with man with an ultimate aim of changing a visitor's behavior toward the resource site and beyond.

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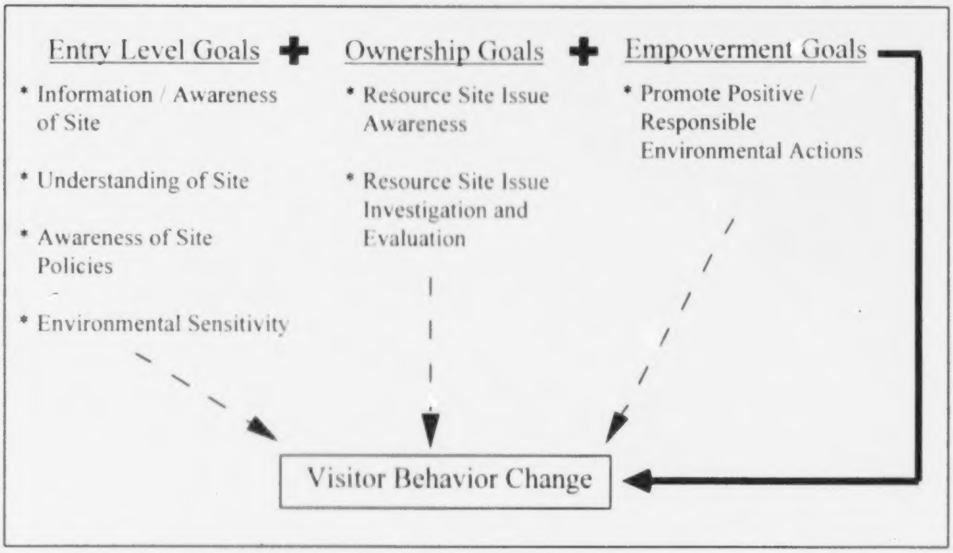
Entry Level Goals
* Information / Awareness of Site
* Understanding of Site
* Awareness of Site Policies
* Environmental Sensitivity
Ownership Goals
* Resource Site Issue Awareness
* Resource Site Issue Investigation and Evaluation
Empowerment Goals
* Promote Positive / Responsible Environmental Actions
Visitor Behavior Change

Figure 1. Environmental Interpretation Behavior Change Model

Administration has been conducting three multi-year research studies to evaluate one or more of the variables outlined in the behavior change model. The remainder of this paper will summarize the methodologies and results of the first year of these evaluations.

THE HILLTOP INTERPRETATION PROJECT

Purpose of Study

The primary goal of the Hilltop Interpretation Project was to evaluate the impact an ecological interpretive program has on the environmental knowledge, attitude, and/or behavior of third and fourth grade students. This represents the first goal level of the Environmental Interpretation Behavior Change Model.

A second goal of the Hilltop Interpretation Project was to enable urban and rural children in south central Indiana to participate in environmental/conservation education programs at the Hilltop Garden and Nature Center. This facility is located in the city of Bloomington on the campus of Indiana University.

Methods and Procedures

The Hilltop Interpretation Project offered several innovative approaches toward the development, application, and evaluation of environmental interpretation. An outline of these procedures follows:

Selection of Program

Through a series of meetings with participating school teachers and agency officials, an interpretive program was developed that answered the needs of the teachers' class curricula. The actual experiences and activities used in these programs were taken from existing environmental/conservation resources such as Project Learning Tree, Project Wild, and OBIS (Outdoor Biological Instructional Strategies). The subject matter contained in the interpretive experience focused on plant adaptations. This was an important science concept that both the third and fourth grade students were learning through the Science Curriculum Improvement Study (SCIS).

Program Implementation

During the fall and spring of the 1993-94 school year, approximately 30 third and fourth grade classes (600 students) from south central Indiana participated in conservation/environmental education activities at the Hilltop Interpretive Center. These interpretive programs, which lasted for a half day, were led by an environmental education specialist.

Prior to the field trip, each participating teacher was required to take part in a day-long training that accomplished two objectives. First, all pre and post lessons to be implemented by the teacher were offered in a participatory fashion. Second, the educators were made aware of the research associated with this program and the evaluation instrument teachers would administer to students.

Program Evaluation

An evaluation of the classes' participation in these interpretive programs took place from the onset of their experience. A quasi-experimental design was used to conduct this research. This field research model approximates the conditions of a true experiment in a setting which does not allow for control of all variables (Isaac and Michael, 1990). A test was administered to students prior to any pre-field trip lessons. A pre-visit test was given before their visit to the Hilltop facility and a post-test was administered to students at the school following the experience. These evaluations, which were approved by the teachers, measured any knowledge and/or attitude change that resulted from students' participation in the interpretation program at Hilltop.

The Hilltop Interpretation Project had two distinct phases—the fall and spring evaluation sessions. The fall semester was considered a pilot study; it evaluated approximately 230 third and fourth graders' experiences at Hilltop. The evaluation instrument used for the pretest, pre-visit test, and post-test was revised following the pilot study during the fall semester. This instrument was a partial replication of evaluation tools designed by the National Science Resources Center (1993) to measure knowledge and attitude changes in elementary school students. This instrument contained nine multiple choice and true/false questions. The revised instrument and evaluation process were then administered during the spring semester.

During the spring semester, over 300 third and fourth grade students participated in the Hilltop Interpretation Project. Each student completed a pretest, pre-visit test, and post-test. A chi-square analysis was conducted on the multiple choice questions due to the nominal data. This analysis determined if a relationship existed between the time the students took the test and the responses they selected. F tests were run on the true/false questions to determine if there were any significant changes in scores between the first, second, and third tests.

Conclusions and Discussion

The results show significant changes in students' knowledge of plant adaptations after their interpretive experience. All knowledge-related questions showed some significant increase in scores following the Hilltop program. The attitude related questions showed no significant difference. These data support the notion that an interpretive experience can aid student's awareness in science/ecological subject matter. It does not support the notion that such a short experience can affect student's attitude toward that subject matter.

INDIANA DUNES NATIONAL LAKESHORE/ INDIANA UNIVERSITY ENVIRONMENTAL EDUCATION PARTNERSHIP

Purpose of Study

The primary goal of the first year of this two year study was to evaluate impacts that two separate environmental interpretive programs have on students' environmental knowledge, attitude and/or behavior. This project provided two environmental interpretative field trips to approximately 1600 fourth and fifth grade urban students. Second, it provided environmental education training to the 65 participating teachers. A third outcome of this project yielded an intensive evaluation of students' interpretive experiences. This evaluation compared the effects of two different programs representing two variable levels of the Environmental Interpretation Behavior Change Model: awareness of ecology and environmental issue awareness.

Methods and Procedures

Selection of Programs

During the summer of 1994, representatives of Indiana University worked closely with staff at the Paul H. Douglas Environmental Education Center, at Indiana Dunes National Lakeshore, to determine which programs currently being offered at the Douglas Center would be suitable for inclusion in the study. After a thorough examination, "Fall Fanfare" was chosen as the ecology-based program. This program focused on preparations and adaptations animals and plants make to survive the winter. Objectives of the program were met through a series of activities on a guided walk through a forested dune area.

The "Celebration Earth" presentation was chosen as the issue-oriented program. Through a series of four activities conducted at the Douglas Center, students were presented with problems of and possible solutions to water pollution. The programs were designed by the National Park Service staff at the Douglas Center and have been presented to thousands of students over the past ten years.

Program Implementation

At the beginning of the 1994-95 school year, 65 teachers (representing approximately 1600 students) from the Duneland, East Chicago, and Gary, Indiana school districts were contacted and asked to participate in a study that would provide the opportunity to attend fall and spring workshops. The teachers were also informed that their classes would be able to participate in ranger-guided fall and spring environmental interpretation field trips.

At the day-long training workshops teachers participated in programs their students would be attending later in the semester. Pre-site and post-site activities developed by the National Park Service were demonstrated for teachers in a hands-on presentation. Teachers signed up for field trips during the workshop insuring that each class would be able to participate at a time convenient to their schedule. Evaluation instruments, testing forms, and return envelopes were provided to teachers to facilitate high response rates for the program evaluations.

Program Evaluation

To evaluate the impact the programs had on students' knowledge, attitudes, and behavior toward the environment, a quasi-experimental design (Isaac and Michael, 1990) was implemented using an evaluation instrument that included fifteen matching, multiple choice, and Likert scale questions. This was a replication of an evaluation tool developed by Drake and Knapp (1994) and the National Science Resources Center (1993). During the fall, teachers administered the test before they began pre-site activities (the initial test), before the class attended the "Fall Fanfare" program (the pre-test), and after the class attended the program (the post-test). All tests in the study were given in the classroom and then sent to Indiana University for analysis.

During the spring teachers were asked to administer the test twice, once before the "Celebration Earth" program (the pre-test) and once after the "Celebration Earth" program (the post-test). The evaluation instrument remained the same throughout the fall and spring sessions. A majority of teachers administered the evaluation which provided a large sample of student responses for analysis. Two teachers volunteered to act as control groups.

T-tests for independent samples was used to analyze the Likert scale and matching questions which measured any attitude and/or knowledge change. This analysis was chosen to determine if the difference in responses over time was significant. It was also chosen due to the variability in teacher consistency in returning the evaluations. A chi-square analysis was conducted on the multiple choice questions due to the nominal data. This analysis determined if a relationship existed between the time the students took the test and the responses they selected.

TABLE 1

Significant Results from Indiana Dunes Study

Ecology-Based Interpretive Program	Issue-Based Interpretive Program
• Positive increase in attitude toward Indiana Dunes (between initial test and pre-test only).	• Decrease in positive attitude toward the Indiana Dunes.
• Positive increase in attitude toward staying on marked trails.	• Decrease in positive attitude toward staying on marked trails.
• All ecology-based questions (5) showed significant positive increases.	• No positive increase in ecology scores but higher pre-test means than in fall.
• More students moved toward organizing protest to protect park.	• Fewer students would form petitions to protect park.
• Positive increase in attitudes toward the forests.	• Fewer students would organize friends to take action to protect park.
• More students would attend guided park walks.	• Fewer students would attend guided park walks.

Conclusions and Discussion

Conclusions

Table 1 shows a summary of significant results found in this study. These results tend to suggest that an ecology-based program produce more immediate positive changes in students' knowledge, attitudes, and behavior intent than an issue-oriented program. The analysis of the fifteen question evaluation instrument revealed ten favorable changes and no unfavorable changes in relation to the ecology-based program. There were no positive changes and five unfavorable changes associated with issue-based presentation.

Discussion

There were several limitations related to this study that must be reviewed. First, the evaluation instrument only measured short-term retention. The pre and post-tests were administered within one to two weeks prior to and after the field trips. This was done to alleviate other variables from influencing student responses and to isolate the immediate impact of the field trip. Therefore, this analysis of short term effect cannot support actual behavior change. Rather, this study can report on behavior intent through the pre and post-test evaluation.

Another important limitation was that the fall interpretive experience was conducted in the outdoors where as the spring session was conducted primarily indoors. Although the spring session contained hands-on experiences for students, the possibility does exist that negative results from this session were motivated by lack of outdoor activities. If this limitation is valid, it should still be noted there was a clear difference in students' reaction to indoor vs. outdoor interpretive experiences.

These limitations must be considered when interpreting the results of the first year of this study. This research does not completely validate ecological-based programs nor does it negate the importance of issue-based interpretive experiences. Several changes in the research will take place during the second year to increase the validity of the evaluation instrument and application of the interpretive programs. These changes will produce a more accountable study.

SOUTH CENTRAL INDIANA ENVIRONMENTAL EDUCATION PARTNERSHIP PROJECT

Purpose of Study

The primary goal of the South Central Indiana Environmental Education Partnership Project was to evaluate effects of interpretive programs on students' environmental knowledge, attitudes, and/or behavior. This partnership represents all of the goal levels associated with the Environmental Interpretation Behavior Change Model outlined at beginning of this paper. The South Central Indiana Environmental Education Partnership Project was composed of three primary institutions. They were:

- Indiana University–Department of Recreation and Park Administration
- United States Forest Service–Hoosier National Forest
- Monroe County Community School Corporation

This project formed a partnership with the region's educational institutions to provide environmental education to middle school teachers and students and to promote their involvement in the management of Charles Deam Wilderness. This site, located in south central Indiana, is one of the most utilized wilderness areas in the country.

Methods and Procedures

Selection of Programs

To accomplish the partnership's objectives, five environmental interpretive programs or phases were developed to integrate into middle school curricula during the academic year. Each phase included one teacher training day, an interpretive field trip, and related classroom lessons.

The program was intended to be used with science and social studies curricula creating a. year-long environmental education program. Below is a brief description of each phase of the program:

- *Phase #1–Basic Knowledge of Wilderness Site:* Focused on basic ecological principles regarding south central Indiana ecosystems, as well as the natural and cultural history of the Deam Wilderness.
- *Phase #2–Awareness of Problems and Issues Related to Wilderness Site:* Students learned about problems and issues associated with the Deam Wilderness by analyzing some wilderness site issues.
- *Phase #3–Investigation of Wilderness Site Issues:* Strategies and methods were planned so that students could investigate Deam Wilderness issues.
- *Phase #4–Knowledge of Citizen Participation Skills:* Students determined implementation strategies to remediate the wilderness issues.
- *Wilderness Summit:* All of the participating students met with U.S. Forest Service officials to report recommendations regarding management of the Deam Wilderness.

Program Implementation

Each of the above program phases included teacher training and classroom lessons as well as an interpretive aspect such as a field trip or class visit by a Forest Service/Indiana University Interpreter. These programs represented one full school year with phases one and two occurring in the fall semester and phases three and four in the spring semester. Five teachers, repre senting 150 middle school students, were chosen to take part in this project.

Program Evaluation

Below are two areas that were evaluated in this project:

- Does the partnership project affect students' knowledge, attitudes, and/or behaviors toward the Deam Wilderness and related environmental issues?
- Which one of the environmental education phases has the most impact (if any) on students' knowledge, attitudes, and/or behaviors toward the Deam Wilderness and related environmental issues?

To investigate these questions, a quasi-experimental design (Isaac & Michael, 1990) was implemented which included an evaluative instrument developed by Indiana University. This took the form of a series of pre- and post-tests administered to all participating students.

TABLE 2

Timing and Placement of Evaluations

	Pre-Evaluation	Pre-Evaluation	Pre-Evaluation	Pre-Evaluation	
General Pre-test	**Phase #1**	**Phase #2**	**Phase #3**	**Phase #4**	General Posttest
	Post-Evaluation	Post-Evaluation	Post-Evaluation	Post-Evaluation	

These evaluations were approved by the teachers and measured any knowledge and/or attitude change due to their participation in this environmental education project. This evaluation was a modification of instruments developed by Ramsey (1981), Klingler (1981), and Drake and Knapp (1994). This was a 20-item instrument that used Likert scale and multiple choice questions. Table 2 shows a chart that illustrates the placement of these evaluations.

The general pre- and post-test was an attempt to answer the first area of importance to this study—does the project as a whole make any impact on students' knowledge and/or attitudes toward the Deam Wilderness issues? The pre and post evaluations for all phases attempted to find out which part of the program had the most impact. Each question was analyzed by using a matched pairs t-test to determine if the difference in responses over time was significant.

Another important aspect of this project was the qualitative evaluation. Through first-hand observations, the research team was able to determine a great deal about students' knowledge, attitudes, and behavior with respect to the Deam Wilderness. The Indiana University educators also conducted a series of interviews with the participating classroom teachers during and after the partnership project.

Conclusions and Discussion

Conclusions

Of the three variables (knowledge, attitude, and behavior) evaluated through the quantitative measures, only knowledge questions showed significant increases during the year-long program. In fact, this increase occurred primarily during the first phase of the partnership project. The attitude and behavior variables did not reflect a significant increase.

The qualitative evaluation also showed mixed findings. The comments from both students and teachers during the first two phases were generally positive. On the other hand, comments from the second two phases showed frustration with students' interest in researching wilderness issues. The most dramatic qualitative results occurred with students' interest in Forest Service officials' statements during the wilderness summit.

Discussion

An important lesson from this project was over-testing of students through quantitative evaluations. It became clear after two phases of testing, students responses were reflecting "test burnout." Another important finding was that future interpretive partnerships should look at semester or month-long experiences. A full school year was too long with both qualitative and quantitative findings showing a decrease in interest.

SUMMARY

The three research studies outlined above are initial attempts to validate or disprove the environmental interpretation "road map" described at the outset of this paper. Many limitations existed in these studies and were discussed with each research summary. Despite these concerns the author believes there are two important observations that can be made regarding these three studies and their bearing on the Environmental Interpretation Behavior Change Model.

1) *Entry level variables showed more short-term impact on students than ownership or empowerment variables.* All three research

studies showed significant increases on students' knowledge of the resource site involved in that particular study. This, however, was only true for the interpretive experiences that were based on ecological information. The Hilltop program, the ecological field trip at Indiana Dunes, and the first phase of the wilderness field trips all showed significant increases in student knowledge. Only the ecological field trip at Indiana Dunes showed any impact in students' attitudes and behavior toward the resource site.

2) *Interpretive experiences with ownership and empowerment variables showed no significant impact on students' attitude and/or behavior intent toward the resource site.* The issue-oriented field trip at Indiana Dunes and the three phases of the Deam Wilderness project that represented ownership and empowerment variables showed no significant impact on students' attitude toward and/or behavior intent regarding the resource site. In fact, some scores showed a decline in attitude and/or behavior toward the resource site following ownership/empowerment experiences.

The first year's results of these three studies indicate that the initial variables of the Environmental Interpretation Behavior Change Model may have impact on a visitor's knowledge of the resource site. However only the Indiana Dunes study found these variables to have impact on a visitor's attitude or behavior. No other significant results were found in any other variable level.

Research supports the notion that short-term awareness experiences do not change an individual's behavior, which is the ultimate goal of environmental interpretation. Unfortunately, the studies reviewed above only support success in conveying knowledge variables. Therefore, an inference from this data would support the notion that environmental interpretation should take a hard look at its lofty goal of provoking a visitor to become a preservationist of his/her resource site. The field must further investigate if and how interpreters can successfully convey ownership and empowerment variables to attempt to achieve the widely espoused behavior change outcome.

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PERSONALITY PREFERENCES OF OUTDOOR PARTICIPANTS

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Historically, outdoor educational experiences have been provided for the purpose of teaching in, about and for the outdoors, to face challenges of self and the environment, and for various therapeutic purposes. While the complexities and interactions of alternative forms of education are many, there has been an increase in the popularity of adventure education for people of all ages. Adventure education is rooted in Kurt Hahn's work (Smith, Roland, Haven, & Hoyt, 1992) of developing the individual through various physical challenges. The Outward Bound schools are based on Hahn's educational practices and state, "The aim of education is to impel young people into value-forming experiences" (p. 9). Project Adventure and other programs aimed at leadership development have all stemmed from the idea of letting adventure teach one about oneself, how one relates to others in a group and other transferable lessons, such as decision making and values (Smith, 1992). For the last two decades, the adventure education approach has become a popular attraction for a greater number of people wanting to participate in outdoor experiences. Often, the modern outdoor participant has little personal experience with the natural environment; and, therefore, seeks a group session, structured for success with someone who serves as teacher, protector or manager of the experience (McAvoy, 1987). Along with the increase of providing structured programs, came variety in types of people seeking outdoor experiences. This variety has led researchers in outdoor education on a quest to better understand the characteristics of the participants.

Studies have shown that several characteristics relate to how an individual approaches and participates in the outdoors. Many studies have investigated how various social and psychological states such as creative flow (Csikszentmihalyi, 1975), risk (Ewert, 1985), self efficacy (Bandura, 1977, Harmon &Templin, 1987), self concept (Bacon, 1988), self actualization (Maslow, 1962), fear (Ewert, 1985), and competence (Allen, 1980) serve as motivators for participation in adventure activities. Other research has looked at how various groups respond to an outdoor experience. Women tend to experience the outdoors differently than men (Kiewa, 1994; Mitten, 1994; Warren, 1985); novices differ from those more experienced (Ewert, 1989); ethnic background may be an accessibility and role model issue (Ashley, 1990); and older adults differ from other adults (Sugarman, 1990) or school children (Moore, 1990). Phipps (1985) used Jungian psychology to make a case for stress management using wilderness experiences. He posited that there may be an unconscious lure of the wilderness in which to explore the inner self. By using archetypes an understanding of self may become more apparent.

There remains some question about how to link what is known about individuals to the planning and implementation of group structured outdoor programs. One theory that may

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illuminate the program planning and implementation processes in terms of collective differences is Jungian personality theory.

For Jung (1923, 1971), there were essential ways that people become aware of things and come to some conclusion about their awareness. These two processes, becoming aware (perception) and making decisions (judgment), are further defined as bipolar dimensions producing four functions of human personality (Spoto, 1995). One may prefer to become aware of things in his/her own world by sensing concrete information (sensor) or by intuiting more abstract information (intuition). The decision making function is viewed as a rational decision using logic (thinking) or a more personal related way (feeling). It is believed that these four functions of sensing, intuition, thinking and feeling can serve as broad generalizations for planning and implementing group structured outdoor programs.

Structured outdoor educational trips create an intense experience by developing a closed community where each decision made affects everyone in the group. The very nature of being in unfamiliar terrain with unfamiliar people offers both opportunities for personal growth and opportunities for conflict and confusion. It is assumed that personality type preferences play a role in how people respond to an unique outdoor environment. Membership in an outdoor group can be a positive experience if members understand and appreciate each other's uniqueness. Thus, this study was designed help us better understand the people who seek an organized group experience in the outdoor environment.

BACKGROUND

Understanding preferences is important to teachers/leaders and other professionals who desire to be more effective in their work to meet individual needs in group settings. Personality type preference is defined as every individual's pattern of mental habits. There are no right or wrong patterns, nor does one's preference likely change. By examining a person's patterns or ways of taking in and using information, we generalize about certain "type" similarities.

The study of personality types is grounded in Jung's (1923, 1971) theory that identified patterns of behavior used as indicators of psychological processes. Typology indicates various patterns in the ways that people prefer to perceive information and make judgments. He characterized mental activity into two perception processes (sensing and intuition) and two judgment processes (thinking and feeling). Perception processes are how information comes into consciousness. Information is used (sorted, evaluated, analyzed) by the judgment processes (Lawrence, 1993).

The purpose of this study was to investigate the personality type preferences represented by those who have chosen to participate in a structured, field based, outdoor education program. Research has explored the prevalent types of various professions including teachers, engineers, dancers, physicians, and business persons (Myers, 1991). The typology has not yet been specifically identified for outdoor participants. Furthermore, a comparison of how outdoor participants differ from other groups in the general population becomes a secondary question in this study.

METHOD

This study is a description of people who voluntarily sought a guided, outdoor educational experience. For this study, 87 participants were administered the *Myers-Briggs Type Indicator* (MBTI) prior to starting a ten day Wilderness Education Association outdoor leadership trip conducted in New Mexico in 1994 and 1995. The participants ranged in age from 18 to 46. There were 37 female and 50 male subjects. All subjects had at least one year of college. The outdoor experiences of the sample ranged from no experience to multiple short excursions averaging 9 days in length. About one third of the subjects were affiliated with the Boy Scouts of America as their reference for outdoor participation.

The *MBTI* is a well known assessment tool and is easy to administer. Isabel Briggs-Myers and her mother Katherine Briggs developed the paper-pencil test to identify four dimensions of personality type as previously identified by Jung. They are: 1) Extroversion-Introversion; 2) Sensing-Intuition; 3) Thinking-Feeling; and, 4) Judgment-Perception (Myers, 1991). Sixteen possible types can be determined with different combinations of these four dimensions of personality. Extroversion-Introversion measures how much one prefers the interaction with other people and external ideas from a variety of situations or the degree to which one prefers to work alone, to contemplate and reflect internal ideas. The Sensing and Intuition scales indicate how information is taken in by an individual. The Sensing scale indicates a preference for concrete information and facts, while the Intuition scale describes one's preference for an abstraction of possibilities and relationships. The Thinking-Feeling scales describe how one makes decisions. One who prefers thinking uses an objective, impersonal process of logic, whereas one who refers feeling is one who considers relationships and personal values. The Judgment-Perception scales reveal how people views their world. The judger tends to demonstrate a need for closure, structure and order. The perceiver demonstrates a need for resistance to closure, flexibility, and spontaneity.

RESULTS

Table 1 shows the frequency of each personality type as found in the study. There is a range of type and all types are represented. Personality types are recorded with capital letters symbolizing the corresponding preference: E = extroversion; I = introversion; S = sensing; N = intuition; T = thinking; F = feeling; J = judging; and P = perceiving. There are sixteen possible personality types derived from the four preference dimensions. Myers and Myers (1990) have developed a formula to compare the degree of self selection by any personality type in any sample. The resultant self selection ratio (SSR) is the percentage frequency of that personality type in the sample divided by its percentage frequency in the appropriate base population (Myers & Myers, 1990). The base population for this study was the general population for both male and female adults as predicted by Keirsey and Bates (1978). The lower the SSR, the greater the similarity between the sample group and the general population prediction. Conversely, the higher the SSR the more the two groups differ in type distribution. A significant self selection is indicated by a SSR of 1.0 or greater.

In this study there were overwhelmingly high SSRs in the type categories of INTP (SSR=11.0), INFP (SSR=9.0), INTJ (SSR=8.0), and INFJ (SSR=6.0). These types have particularly low representations in the general population, which may partially account for the high SSRs. Other significant self selection ratios were demonstrated for ENFP (2.0), ENTP (1.6), ENTJ (1.6), ISFP (1.4), and ISTJ (1.3).

Table 2 displays the comparison of the outdoor participant sample to the general population prediction by Keirsey and Bates (1978). The largest concentration relative to what is expected in the general population falls into introversion and intuition categories. It appears that people interested in the outdoors are different than the general population in the extroversion-introversion scale and the sensing-intuition scale. A chi-square value of 18.09 is significant at the .05 level for extroversion and introversion. The sensing-intuition data revealed a chi-square value of 31.6, which is significant at the .05 level. The sensing-thinking scale revealed a chi square of .29, which was not significant. Similarly, the judging-perceiving scale indicated a chi-square of .27, which also was not significant. Seventy-five percent of the general population is categorized as extroverted and 25% is introverted (Keirsey & Bates, 1978). Results of this sample showed 44% and 56% respectively. While one would expect more extroverts to choose a group setting this study revealed the contrary.

Similarly, 75% of the general population acquires information through the sensing process. Whereas, our results indicate only 32% of the sampled outdoor participants prefer the sensing function. This means that the sampled outdoor participants may approach the experience by incorporating many dimensions and aspects of the total experience, rather than the

Table 1
Comparison of Subjects to Adult Base Population and Self Selection Ratios

TYPE*	% OF GEN. POP.	NUMBER	% OF SUBJECTS	SSR**
ISTJ	6	7	8	1.3
ISFJ	6	2	2	.3
ISTP	5	3	3	.6
ISFP	5	6	7	1.4
ESTP	13	4	4	.3
ESFP	15	2	2	.1
ESTJ	13	3	3	.2
ESFJ	13	3	3	.2
INFJ	1	5	6	6.0
INTJ	1	7	8	8.0
INFP	1	8	9	9.0
INTP	1	10	11	11.0
ENFP	5	9	10	2.0
ENTP	5	7	8	1.6
ENFJ	5	4	4	.8
ENTJ	5	7	8	1.6

Notes: I = Introversion, E= Extroversion, S= Sensing, N= Intuitive, T = Thinking, F = Feeling, J = Judging, P = Perceiving.
** Self Selection Ratio (SSR)= Incidence of that type in the sample divided by its incidence in the appropriate base population (Myers, 1990). Values above 1.00 show high positive self selection.

specific, concrete and individual elements of the experience. The other dimensions of Thinking-Feeling and Judgment-Perception indicate similar patterns with general population expectations.

DISCUSSION

When discussing personality preference, ways of taking in and using information are often separated. The Sensing-Intuition (S/N) and the Thinking-Feeling scale (T/F) provide this important insight. These combine in ways that help further determine a temperament (Keirsey & Bates, 1978) or learning style (Lawrence, 1993). For instance, this study found a high number of Intuitive- Thinkers, NTs, (36%) and Intuitive-Feelers, NFs, (30%) seeking the outdoors. Both of these intuitive types are a minority in the general population.

Intuitive-Thinkers (NTs) have a logical way of processing information making them effective in groups. They have high standards for themselves and seek to understand, control, and predict all that is around them—people and nature. They are self-critical and mastery is important. A structured outdoor experience provides an opportunity to learn about themselves and nature in a psychologically safe community. Achievement of physical standards may be appealing for those who demonstrate this type.

Table 2
Statistical Comparison of Sample to General Population

	Extroversion		**Introversion**	
	f	%	*f*	%
General population (expected)	65.25	75	21.75	25
Outdoor subjects (observed)	***39***	***44***	***48***	***56***
$\chi^2(1, 87) = 18.09, p < .05$				
	Sensing		**Intuitive**	
	f	%	*f*	%
General population (expected)	65.25	75	21.75	25
Outdoor subjects (observed)	28	32	59	68
$\chi^2 (1, 87) = 31.6, p < .05$				
	Thinking		**Feeling**	
	f	%	*f*	%
General population (expected)	43.5	50	43.5	50
Outdoor subjects (observed)	46	53	39	47
$\chi^2 (1, 87) = .29, p > .05$				
	Judging		**Perceiving**	
	f	%	*f*	%
General population (expected)	43.5	50	43.5	50
Outdoor subjects (observed)	41	45	48	55
$\chi^2 (1, N = 87) = .27, p > .05$				

The outdoors may be a way of life for NTs because they have difficulty in separating work and play (Keirsey & Bates, 1978).

The Intuitive-Feelers (NFs) are generally non judgmental, accepting, genuine, committed to their own growth and that of others. NFs seek growth and development of personal identity; integrity is a prime value. Outdoor experiences may be particularly attractive to people with the NF preferences because the innate personal challenges and the opportunity for the collective experience in the outdoor environment.

In outdoor educational settings, group cooperation is essential to meet the goals of the programs. This is known as positive interdependence. The goal of positive interdependence (Johnson & Johnson, 1994) may be facilitated by the personality preferences exhibited by participants who are intuitive and either thinking or feeling. Johnson and Johnson (1994) list four elements related to positive interdependence: 1) positive relationships (Feelers); 2) effort to achieve common goals (Thinkers), 3) positive adjustment (Thinkers), and 4) social competence (Feelers). Positive relationships are characteristic of feeling types as is social competence; whereas, the effort to achieve common goals and positive adjustment would be characteristics of thinking types.

The over-representation of Introverts in the results of this study indicate that Introverted types, typically represented by only one quarter of the general population, tend to seek outdoor experiences. Perhaps the solitary, contemplative experience of the outdoors offers opportunity where they absorb information and seek to understand relationships. As good problem solvers, introverts are able to adapt to the social situations presented in the outdoor experience. The outdoor environment appears to have an inherent attraction for them.

Personality type theory also has implications for teachers/leaders and their effectiveness. In structured group experiences the leader may pay attention to individual needs for alone time or to allow participants to develop individual goals which fit within the framework of the group goals. There are many opportunities in group courses to be alone in activity (i.e., hiking along a trail is both a personal reflective time as well as a group activity). Instructors may temper fact within the less scientific framework of the outdoors. Information about personality types can provide the instructor with a better understanding of people in order to deliver curriculum for effective teaching. Participants who voluntarily seek a structured outdoor program seem to have some unusual and common characteristics which value both knowledge and relationships. Personality type should not be the only indicator for leaders to work with individuals in a group. Rather it should be used as one of many measures of a participant. Outdoor participants can benefit from understanding the personality preferences as a useful strategy in providing a better understanding of their own potential and ways to find their strengths and interests in outdoor activities. More research related to type and group dynamics, experience and nature of trip needs to be completed. Furthermore, research is needed to identify personality types for independent outdoor participants, participants of other kinds of structured programs, small group use of the outdoors.

More information is needed in understanding the people who want structured outdoor experiences in order to best meet their needs. Further research might investigate how instructor personality preferences affect group interaction? Would complementary or matching preference facilitate teamwork or satisfaction with goal attainment? How does personality preference relate to technical and other camp skills? What are the characteristics of other people in the outdoors, specifically those not in organized groups? How do personality preferences relate to group process or conflict in outdoor experiences? This study provides a foundation to building such understanding about participants in outdoor educational trips.

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TEACHING AND EVALUATING OUTDOOR ETHICS PROGRAMS: SETTING A RESEARCH AGENDA

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Concerns over poor outdoor user behavior have spawned increasingly urgent calls for outdoor ethics education (Elliot, 1992; Enck & Stedman, 1992; Jackson & Norton, 1979; Marshall, 1993; Schmied, 1993; Waterman & Waterman, 1993). Outdoor groups are justifiably concerned about the impacts of negative user behavior, which include poor public perceptions of all participants in an outdoor activity, degradation of the outdoor experience for others, denigration of outdoor traditions, and loss of access to the outdoors (Matthews & Riley, 1995). Education-based strategies (Marshall, 1993; Schmied, 1993) have been gaining popularity and momentum. Are these strategies well-grounded in research? What does the research say about their effectiveness in changing outdoor behavior? What opportunities—and, in fact, imperatives—exist for research in this area?

The success of outdoor ethics education is ultimately benchmarked by long-term, enduring changes in the intentions, motivations, and behaviors of outdoor users and their communities. In their enthusiasm to respond to the need for outdoor ethics education, however, outdoor user groups, state and federal agencies, and even outdoor and environmental educators have adopted strategies and techniques, such as public awareness campaigns, promoting codes of ethics, and incorporating environmental ethics lectures, that are not supported by research. Several of these approaches, in fact, have been shown to be *ineffective* (Hartshorne & May, 1928/1930; Leming, 1993; Matthews & Riley, 1995).

Outdoor ethics educators who wish to base their efforts on what the literature suggests are the methods most likely to bring about long-term, ethics-based behavioral change will *avoid* the following:

- lectures
- excessive moralizing
- externally-derived codes of conduct
- adults setting the ethics agenda for youth audiences
- teachers/leaders as authoritarian figures
- assuming that long-term, ethics-based behavioral change will result from building knowledge or changing attitudes
- consequences, rewards, or incentives
- simply providing information designed to raise issue awareness or to urge good behavior

However, an emerging body of research provides some support for adapting the following approaches for use in outdoor ethics education:

1. Group participation in developing codes of behavior for outdoor activities;
2. Interactive teaching methods, such as small group discussions, role playing, and peer teaching and role-modeling;

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3. Discussions about ethical dilemmas that deal with *relevant* issues;
4. "Trigger" films and slide-shows and interactive videos;
5. Mentoring approaches, especially those based in the community and done on a long-term basis;
6. Use of community clubs and organizations.

At this point, there is very little research that has focused directly on evaluating outdoor ethics education approaches. Opportunities for the outdoor education research community clearly exist. Research is needed concerning:

- Formative evaluations of ethics education programs;
- The effectiveness of outdoor ethics education in various contexts;
- the importance of the socio-cultural context in outdoor ethics education;
- longitudinal effects of outdoor ethics education programs;
- the relationship between outdoor ethics and environmental stewardship;
- the interactions between motivations, intentions, and behaviors, as well as how to influence them.

Given the need for and interest in outdoor ethics education that exists on the part of the outdoor recreation, natural resource, and education communities, it seems imperative that outdoor education researchers respond. Providing more insights into how best to develop responsible behavior, including a commitment for resource stewardship, is arguably the most important task faced by the outdoor education profession.

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